STANDARD OCCUPATIONAL CLASSIFICATION MANUAL

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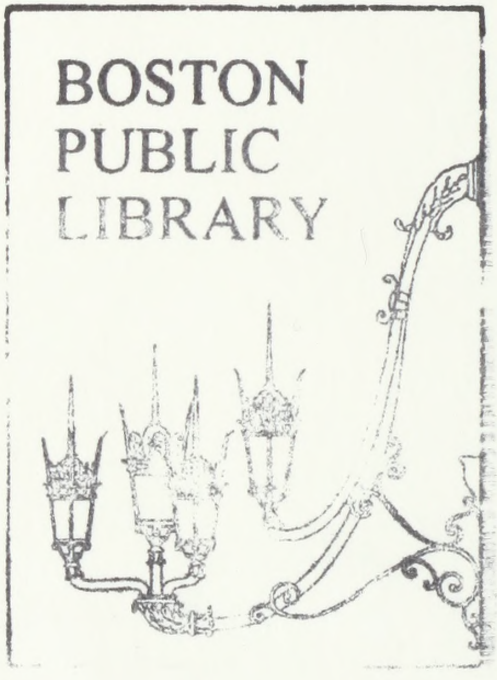
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STANDARD OCCUPATIONAL CLASSIFICATION MANUAL

2000

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Contents

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Preface ix
Introduction x
SOC Manual xi
Classification Principles xii
SOC Classification and Coding Structure xiv
Alternate Hierarchies xvi
Revision Process xviii
Acknowledgements xxi
The Future of the SOC xxvi
Frequently Asked Questions xxvii

Occupational Definitions
11-0000 Management Occupations 1
11-1000 Top Executives 1
11-2000 Advertising, Marketing, Promotions, Public Relations, and Sales Managers 2
11-3000 Operations Specialties Managers 3
11-9000 Other Management Occupations 6
13-0000 Business and Financial Operations Occupations 12
13-1000 Business Operations Specialists 12
13-2000 Financial Specialists 17
15-0000 Computer and Mathematical Science Occupations 21
15-1000 Computer Specialists 21
15-2000 Mathematical Science Occupations 24
17-0000 Architecture and Engineering Occupations 27
17-1000 Architects, Surveyors, and Cartographers 27
17-2000 Engineers 28
17-3000 Drafters, Engineering, and Mapping Technicians 34
19-0000 Life, Physical, and Social Science Occupations 38
19-1000 Life Scientists 38
19-2000 Physical Scientists 41
19-3000 Social Scientists and Related Workers 43
19-4000 Life, Physical, and Social Science Technicians 47

21-0000 Community and Social Services Occupations....51
21-1000 Counselors, Social Workers, and Other Community and Social Service Specialists....51
21-2000 Religious Workers....55
23-0000 Legal Occupations....56
23-1000 Lawyers, Judges, and Related Workers....56
23-2000 Legal Support Workers....57
25-0000 Education, Training, and Library Occupations....59
25-1000 Postsecondary Teachers....59
25-2000 Primary, Secondary, and Special Education School Teachers....68
25-3000 Other Teachers and Instructors....70
25-4000 Librarians, Curators, and Archivists....71
25-9000 Other Education, Training, and Library Occupations....73
27-0000 Arts, Design, Entertainment, Sports, and Media Occupations....75
27-1000 Art and Design Workers....75
27-2000 Entertainers and Performers, Sports, and Related Workers....77
27-3000 Media and Communication Workers....80
27-4000 Media and Communication Equipment Workers....82
29-0000 Healthcare Practitioner and Technical Occupations....85
29-1000 Health Diagnosing and Treating Practitioners....85
29-2000 Health Technologists and Technicians....92
29-9000 Other Healthcare Practitioner and Technical Occupations....97
31-0000 Healthcare Support Occupations....98
31-1000 Nursing, Psychiatric, and Home Health Aides....98
31-2000 Occupational and Physical Therapist Assistants and Aides....98
31-9000 Other Healthcare Support Occupations....99
33-0000 Protective Service Occupations....102
33-1000 Supervisors, Protective Service Workers....102
33-2000 Firefighting and Prevention Workers....103
33-3000 Law Enforcement Workers....104
33-9000 Other Protective Service Workers....106
35-0000 Food Preparation and Serving Related Occupations....108
35-1000 Supervisors, Food Preparation and Food Serving Workers....108
35-2000 Cooks and Food Preparation Workers....108
35-3000 Food and Beverage Serving Workers....110
35-9000 Other Food Preparation and Serving Related Workers....111

37-0000 Building and Grounds Cleaning and Maintenance Occupations....113
37-1000 Supervisors, Building and Grounds Cleaning and Maintenance Workers....113
37-2000 Building Cleaning and Pest Control Workers....114
37-3000 Grounds Maintenance Workers....115
39-0000 Personal Care and Service Occupations....117
39-1000 Supervisors, Personal Care and Service Workers....117
39-2000 Animal Care and Service Workers....118
39-3000 Entertainment Attendants and Related Workers....118
39-4000 Funeral Service Workers....121
39-5000 Personal Appearance Workers....121
39-6000 Transportation, Tourism, and Lodging Attendants....122
39-9000 Other Personal Care and Service Workers....124
41-0000 Sales and Related Occupations....127
41-1000 Supervisors, Sales Workers....127
41-2000 Retail Sales Workers....127
41-3000 Sales Representatives, Services....129
41-4000 Sales Representatives, Wholesale and Manufacturing....130
41-9000 Other Sales and Related Workers....131
43-0000 Office and Administrative Support Occupations....134
43-1000 Supervisors, Office and Administrative Support Workers....134
43-2000 Communications Equipment Operators....134
43-3000 Financial Clerks....135
43-4000 Information and Record Clerks....137
43-5000 Material Recording, Scheduling, Dispatching, and Distributing Workers....143
43-6000 Secretaries and Administrative Assistants....147
43-9000 Other Office and Administrative Support Workers....148
45-0000 Farming, Fishing, and Forestry Occupations....152
45-1000 Supervisors, Farming, Fishing, and Forestry Workers....152
45-2000 Agricultural Workers....152
45-3000 Fishing and Hunting Workers....154
45-4000 Forest, Conservation, and Logging Workers....155
47-0000 Construction and Extraction Occupations....157
47-1000 Supervisors, Construction and Extraction Workers....157

47-2000 Construction Trades Workers....157
47-3000 Helpers, Construction Trades....166
47-4000 Other Construction and Related Workers....168
47-5000 Extraction Workers....170
49-0000 Installation, Maintenance, and Repair Occupations....175
49-1000 Supervisors of Installation, Maintenance, and Repair Workers....175
49-2000 Electrical and Electronic Equipment Mechanics, Installers, and Repairers....175
49-3000 Vehicle and Mobile Equipment Mechanics, Installers, and Repairers....178
49-9000 Other Installation, Maintenance, and Repair Occupations....182
51-0000 Production Occupations....188
51-1000 Supervisors, Production Workers....188
51-2000 Assemblers and Fabricators....188
51-3000 Food Processing Workers....191
51-4000 Metal Workers and Plastic Workers....193
51-5000 Printing Workers....199
51-6000 Textile, Apparel, and Furnishings Workers....200
51-7000 Woodworkers....204
51-8000 Plant and System Operators....206
51-9000 Other Production Occupations....208
53-0000 Transportation and Material Moving Occupations....217
53-1000 Supervisors, Transportation and Material Moving Workers....217
53-2000 Air Transportation Workers....218
53-3000 Motor Vehicle Operators....219
53-4000 Rail Transportation Workers....221
53-5000 Water Transportation Workers....223
53-6000 Other Transportation Workers....224
53-7000 Material Moving Workers....226
55-0000 Military Specific Occupations....232
55-1000 Military Officer Special and Tactical Operations Leaders/Managers..232
55-2000 First-Line Enlisted Military Supervisors/Managers....235
55-3000 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members....236
Alphabetical Index of Occupations....241

Preface

The Standard Occupational Classification (SOC) is a system for classifying all occupations in the economy, including private, public, and military occupations. This classification system replaces all occupational classification systems previously used by Federal statistical agencies. It will be used by all Federal statistical agencies collecting occupational data, providing a means to compare occupational data across agencies. It is designed to cover all occupations in which work is performed for pay or profit, reflecting the current occupational structure in the United States. The *Standard Occupational Classification Manual* lists all occupations and definitions within the structure and provides examples to illustrate some specific jobs and associated titles that are included in each occupation.

The classification is the result of a cooperative effort of all Federal agencies that use occupational classification systems to maximize the usefulness of occupational information collected by the Federal Government. Government agencies using this system to classify occupational data include the Department of Labor's Bureau of Labor Statistics (BLS), and Employment and Training Administration (ETA), the Department of Commerce's Bureau of the Census, the Department of Defense's Defense Manpower Data Center, the Department of Education, the Office of Personnel Management (OPM), the National Science Foundation (NSF), and the Department of Health and Human Services (HHS).

All Federal agencies that collect occupational data will use the new system. State and local government agencies are strongly encouraged to use this national system to promote a common language for categorizing occupations in the world of work.

Introduction

In response to the need for a common occupational classification system, the Office of Management and Budget chartered the Standard Occupational Classification Revision Policy Committee (SOCRPC) in 1994. The SOCRPC was charged with identifying the major statistical uses of occupational classifications, and creating a classification system that reflects the current occupational structure in the United States. The occupational classification is the result of four years of research by the SOCRPC and work groups composed of members from more than 15 government agencies. The Standard Occupational Classification (SOC) will be used by these agencies.

Overview of the classification system

The occupations in this structure are classified at four levels of aggregation to suit the needs of various data users: major group; minor group; broad occupation; and detailed occupation. Each lower level of detail identifies a more specific group of occupations. In the SOC, each occupation is classified in exactly one of 23 major groups. These major groups are divided into 96 minor groups, 449 broad occupations, and 821 detailed occupations.

The structure is comprehensive. If a specific occupation is not listed, it will be included in a residual category with similar occupations.

Detailed occupations are identified and defined so that each occupation includes workers who perform similar job tasks at similar skill levels. Where the definitions include tasks also performed by workers in another occupation, cross-references to that occupation are provided in the definition. Definitions begin with duties that all workers in the occupation are expected to perform.

Each occupation is given a six-digit code. The first two digits represent the major group, the third digit represents the minor group, the fourth and fifth digits represent the broad occupation, and the sixth digit represents the detailed occupation. At aggregate levels, the last digits are zeros, after the digits representing the highest level of aggregation desired. Further details on occupational classification, alternate occupational hierarchies, and the coding system are provided in the section entitled "SOC Classification and Coding Structure" on page xiv.

SOC Manual

This manual describes the occupational structure showing the different levels of aggregation, as well as the occupation titles and definitions. Illustrative examples of job titles that may be found in an occupation are also listed. The *SOC Manual* also discusses the principles of classification, and provides a description of the SOC revision process as well as a section on Frequently Asked Questions. Detailed occupation descriptions begin on page 1.

Alternate SOC formats

Information in this manual also can be found on the SOC Internet site at: http://stats.bls.gov/soc/soc_home.htm.

A CD-ROM version, or additional printed copies, are available from:
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Classification Principles

In order to ensure that all users of occupational data classify workers in the same way, the following classification principles should be followed:

1. The Classification covers all occupations in which work is performed for pay or profit, including work performed in family-operated enterprises by family members who are not directly compensated. It excludes occupations unique to volunteers. Each occupation is assigned to only one occupational category at the lowest level of the classification.

2. Occupations are classified based on work performed and on required skills, education, training, and credentials.

3. Supervisors of professional and technical workers usually have a background similar to those of the workers they supervise, and therefore are classified with the workers they supervise. Likewise, team leaders, lead workers, and supervisors of production, sales, and service workers who spend at least 20 percent of their time performing work similar to the workers they supervise are classified with the workers they supervise.

4. First-line managers and supervisors of production, service, and sales workers who spend more than 80 percent of their time performing supervisory activities are classified separately in the appropriate supervisor category, because their work activities are distinct from those of the workers they supervise. First-line managers are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work.

5. Apprentices and trainees are classified with the occupations for which they are being trained, while helpers and aides are classified separately.

6. If an occupation is not included as a distinct detailed occupation in the structure, it is classified in the appropriate residual occupation. Residual occupations contain all occupations within a major, minor, or broad group that are not classified separately.

7. When workers can be classified in more than one occupation, they should be classified in the occupation that requires the higher skill level. When there is no perceptible difference in skill level, the worker should be classified in the occupation that describes their primary activity.

8. Data collection and reporting agencies should classify workers at the most detailed level possible. Different agencies may use different levels of aggregation, depending on their ability to collect data and on the requirements of users. For more information on data produced using the SOC, see the Frequently Asked Questions section, #3.

SOC Classification and Coding Structure

The SOC classifies workers at four levels of aggregation: 1) major group; 2) minor group; 3) broad occupation; and 4) detailed occupation. Each occupation fits into one of the following 23 major groups:

11-0000	Management Occupations
13-0000	Business and Financial Operations Occupations
15-0000	Computer and Mathematical Occupations
17-0000	Architecture and Engineering Occupations
19-0000	Life, Physical, and Social Science Occupations
21-0000	Community and Social Services Occupations
23-0000	Legal Occupations
25-0000	Education, Training, and Library Occupations
27-0000	Arts, Design, Entertainment, Sports, and Media Occupations
29-0000	Healthcare Practitioner and Technical Occupations
31-0000	Healthcare Support Occupations
33-0000	Protective Service Occupations
35-0000	Food Preparation and Serving Related Occupations
37-0000	Building and Grounds Cleaning and Maintenance Occupations
39-0000	Personal Care and Service Occupations
41-0000	Sales and Related Occupations
43-0000	Office and Administrative Support Occupations
45-0000	Farming, Fishing, and Forestry Occupations
47-0000	Construction and Extraction Occupations
49-0000	Installation, Maintenance, and Repair Occupations
51-0000	Production Occupations
53-0000	Transportation and Material Moving Occupations
55-0000	Military Specific Occupations

These major groups are broken into minor groups, which, in turn, are divided into broad occupations. Broad occupations are then divided into one or more detailed occupations. The SOC contains 821 detailed occupations, aggregated into 449 broad occupations. These broad occupations are aggregated into 96 minor groups, which are, in turn, aggregated into the 23 major groups.

Each item in the hierarchy is designated by a six-digit code. The hyphen between the second and third digit is used only for presentation clarity. The first two digits of the SOC code represent the major group; the third digit represents the minor group; the fourth and fifth digits represent the broad occupation; and the sixth digit represents the detailed occupation. Major group codes

end with 0000 (e.g., 33-0000, Protective Service Occupations), minor groups end with 000 (e.g., 33-2000, Fire Fighting and Prevention Workers), and broad occupations end with 0 (e.g., 33-2020, Fire Inspectors), and finally, any SOC code that does not end in zero is a detailed occupation (e.g., 33-2021 Fire Inspectors and Investigators).

33-0000 Protective Service Occupations
    33-2000 Fire Fighting and Prevention Workers
        33-2020 Fire Inspectors
            33-2021 Fire Inspectors and Investigators

All residuals ("Other," "Miscellaneous," or "All Other" occupations), whether at the detailed or broad occupation or minor group level, contain a 9 at the level of the residual. Detailed residual occupations end in 9 (e.g., 33-9099, Protective Service Workers, All Other); broad occupations that are minor group residuals end in 90 (e.g., 33-9090, Miscellaneous Protective Service Workers); and minor groups that are major group residuals end in 9000 (e.g., 33-9000, Other Protective Service Workers):

33-0000 Protective Service Occupations
    33-9000 Other Protective Service Workers
        33-9090 Miscellaneous Protective Service Workers
            33-9099 Protective Service Workers, All Other

If a minor group has more than nine broad occupations (or more than eight, if there is no residual), the xx-x090 is skipped (reserved for residuals), the xx-x000 is skipped (reserved for minor groups), and the numbering system will continue with xx-x110. The residual broad occupation is then xx-x190 or xx-x290 (e.g., 51-9190, Miscellaneous Production Workers).

The SOC occupational groups and detailed occupations are not consecutively numbered because of these coding conventions and the need to allow for the insertion of additional occupational groups in future revisions of the SOC. Detailed occupations are listed alphabetically within broad occupations, and broad occupations are listed alphabetically within minor groups (except for residuals).

Within each detailed occupation, there may be many associated titles. Illustrative examples are included in this manual, but the list is not exhaustive. An extensive list of associated job titles will be available on the SOC Web site at: http://stats.bls.gov/soc/soc_home.htm in 2001.

Alternate Hierarchies

Agencies may use the SOC or parts of the SOC at varying levels of the hierarchy. For example, data may be collected at the broad occupation level in some areas and at the detailed level in others.

More detailed occupations

The coding system is designed to allow those desiring a delineation of occupations below the detailed occupation level to use a decimal point and additional digit(s) after the sixth digit. It is recommended that users needing extra detail use the structure currently being developed by the Department of Labor's Employment and Training Administration for the Occupational Information Network (O*NET). Further information about O*NET is available on the Internet at: http://www.doleta.gov/programs/onet.

Data collection agencies wanting more detail to measure additional worker characteristics can split a defined occupation into more detailed occupations by adding a decimal point and more digits to the SOC code. For example, Secondary School Teachers, Except Special and Vocational Education (25-2031) is a detailed occupation. Agencies wishing to collect more particular information on teachers by subject matter might use 25-2031.1 for secondary school science teachers and 25-2031.12 for secondary school biology teachers. Additional levels of detail also may be used to distinguish workers who have different training, demographic characteristics, or years of experience.

Higher levels of aggregation

To maintain consistency and comparability across agencies, one of the two aggregations listed below should be used for survey tabulation purposes, when needed:

Intermediate Aggregation (11 groups)

11–13-0000	Management, Business, and Financial Occupations
15–29-0000	Professional and Related Occupations
31–39-0000	Service Occupations
41-0000	Sales and Related Occupations
43-0000	Office and Administrative Support Occupations
45-0000	Farming, Fishing, and Forestry Occupations
47-0000	Construction and Extraction Occupations
49-0000	Installation, Maintenance, and Repair Occupations
51-0000	Production Occupations
53-0000	Transportation and Material Moving Occupations
55-0000	Military Specific Occupations

High-level Aggregation (6 groups)

11–29-0000	Management, Professional, and Related Occupations
31–39-0000	Service Occupations
41–43-0000	Sales and Office Occupations
45–49-0000	Natural Resources, Construction, and Maintenance Occupations
51–53-0000	Production, Transportation, and Material Moving Occupations
55-0000	Military Specific Occupations

Alternate aggregations

It may be the case that due to circumstances such as data collection issues or confidentiality concerns, agencies may not be able to report all the detail indicated in the SOC. For example, there may be cases where an agency can report the detail of at least one occupational category at a particular level of the SOC hierarchy but must aggregate the other occupations at that level. In such cases, the agency may adjust the occupational categories so long as these adjustments permit aggregation to the next higher SOC hierarchical level. In such a situation, agencies must distinguish such groups from the official SOC aggregation. If agencies choose this option they must obtain approval from the Standard Occupational Classification Policy Committee for their proposed aggregation scheme.

Revision Process

The Office of Management and Budget (OMB) established the Standard Occupational Classification Revision Policy Committee (SOCRPC) in 1994 to revise the U.S. Standard Occupational Classification System. The SOCRPC was charged with developing a unified classification structure that maximizes the usefulness of occupational information collected by the Federal Government. The Bureau of Labor Statistics and the Bureau of the Census chaired the SOCRPC. Representatives of other Federal agencies with occupational classification systems—the Employment and Training Administration, the Office of Personnel Management (OPM), and the Defense Manpower Data Center—served as Committee members. OMB, the National Occupational Information Coordinating Committee, and the National Science Foundation participated as ex officio members.

The SOCRPC operated under the following OMB guidelines:

> The Policy Committee is charged with the examination of the Federal Government's various occupational classification systems for statistical and administrative uses, and with providing recommendations to OMB on the structure and implementation of a new SOC. The charge to the Committee includes: (1) identifying the major statistical uses of occupational classifications; (2) identifying and developing new concepts, structures, and methodologies to determine what constitutes an occupation; (3) developing and empirically testing a standard occupational system based on these concepts; (4) planning and implementing the new classification system; and (5) ensuring that there is ample opportunity for widespread public participation in the revision process.[1]

The Committee established the following set of principles to guide the development of the new classification structure. These were published in the October 5, 1995, *Federal Register* notice:

> The Classification should cover all occupations in which work is performed for pay or profit, including work performed in family-operated enterprises by family members who are not directly compensated. It should exclude occupations unique to volunteers.
>
> The Classification should reflect the current occupational structure of the United States and have sufficient flexibility to assimilate new occupations as they become known.

[1] Standard Occupational Classification Revision Policy Committee Charter. (Washington, Office of Management and Budget, October 1994).

While striving to reflect the current occupational structure, the Classification should maintain linkage with past systems. The importance of historical comparability should be weighed against the desire for incorporating substantive changes to occupations occurring in the workforce.

Occupations should be classified based upon work performed, skills, education, training, licensing, and credentials.

Occupations should be classified in homogeneous groups that are defined so that the content of each group is clear.

Each occupation should be assigned to only one group at the lowest level of the Classification.

The employment size of an occupational group should not be the major reason for including, or excluding it from separate identification.

Supervisors should be identified separately from the workers they supervise wherever possible, in keeping with the real structure of the world of work. An exception should be made for professional and technical occupations for which supervisors or lead workers should be classified in the appropriate group with the workers they supervise.

Apprentices and trainees should be classified with the occupations for which they are being trained, while helpers and aides should be classified separately because they are not in training for the occupation they are helping.

Comparability with the International Standard Classification of Occupations (ISCO-88) should be considered in the structure, but should not be an overriding factor.

After reaching initial consensus on the classification criteria, the Committee initiated several actions to launch the revision process and to fulfill the OMB charge. To ensure ample opportunity for widespread public participation in the revision process, the SOCRPC invited outside comment through four *Federal Register* notices. The SOCRPC also sought input from the Federal Consultation Group, a group of Federal agencies that use occupational classification systems. OPM headed this group, which met periodically to discuss the SOCRPC's progress.

In researching the underpinnings of the revised SOC, the SOCRPC commissioned six papers, which were presented at a seminar on research findings to the SOCRPC, the Federal Consultation Group, and other interested parties. The SOCRPC also

collaborated with the Joint Program in Survey Methodology (JPSM) to develop a better understanding of how people perceive skills and training.

Based on input from outside groups, Committee-commissioned research, and collaboration with JPSM, the SOCRPC established the type of classification system it wanted to craft.

The SOCRPC used the Occupational Employment Statistics occupational classification system currently used by BLS to gather occupational information as the starting point for the new SOC framework. The Committee also reviewed the Department of Labor's Occupational Information Network (O*NET), which is in the process of replacing the *Dictionary of Occupational Titles* (DOT).

To carry out the bulk of the revision effort, the Committee created six work groups to examine occupations in the following areas:

- Administrative and Clerical Occupations;
- Natural Science, Law, Health, Education, and Arts Occupations;
- Services and Sales Occupations;
- Construction, Extraction, Agricultural, and Transportation Occupations;
- Mechanical and Production Occupations; and
- Military Specific Occupations.

The work groups were charged with ensuring that the occupations under their consideration conformed to the classification principles adopted by the SOCRPC. In carrying out their reviews, the work groups and the SOCRPC carefully considered all proposals received in response to *Federal Register* notices issued by OMB and the Committee. The *Federal Register* notices requested comment on the uses of occupational data; on the existing 1980 SOC classification principles, purpose and scope, and conceptual options; on the SOCRPC's proposed revision process; on the composition of detailed occupations; on the hierarchical structure and numbering system; and on update procedures.

Acknowledgements

SOC Revision Policy Committee Members

Daniel Weinberg (Chair).....Bureau of the Census

Lois Orr, Brian MacDonald (retired),
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Thomas Scopp.....Bureau of the Census

Military Specific Occupations
John Fowlkes.....Defense Manpower Data Center, DOD

Many Federal and State agencies participated in the development of the Standard Occupational Classification. Individuals from these agencies were instrumental in identifying and defining individual occupations, performing research for the work groups, providing advice on the classification system, and responding to requests for comment in several *Federal Register* notices. The Standard Occupational Classification Revision Policy Committee is grateful for the assistance of all of the following individuals and agencies.

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Brinton Bohling.....Bureau of Labor Statistics
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The Future of the SOC

The Standard Occupational Classification Policy Committee was established by OMB to ensure that the SOC is incorporated in different government agencies in a consistent manner. The committee also is chartered to review periodically and update the occupations included in the SOC to ensure that new occupations are recognized, promptly included, and consistently classified in the SOC across Federal agencies. The next major review and revision of the SOC is planned to begin in 2005 in preparation for use in the 2010 Decennial Census.

Frequently Asked Questions

1. Who uses the SOC?

All government agencies that collect and publish occupational data use the SOC. At the Federal level, these agencies include:

Department of Agriculture
Department of Commerce, Census Bureau
Department of Defense
Department of Education
Department of Health and Human Services
Department of Labor:
- Bureau of Labor Statistics:
  - Occupational Employment Statistics
  - Occupational Health and Safety Statistics
  - Office of Current Employment Analysis
  - Office of Employment Projections
- Employment and Training Administration
- Employment Standards Administration

Department of Transportation
Department of Veterans Affairs
Equal Employment Opportunity Commission
Food and Drug Administration
National Science Foundation
Office of Personnel Management

2. Whom should I contact if I have a question about the SOC?

You may call the SOC information line at 202-691-6500, or send an email to SOC@bls.gov

3. Where can I get information on the occupations in the SOC?

Depending on the type of information you are seeking, you may obtain information from several agencies:

a) The Occupational Employment Statistics (OES) program provides occupational employment and wage estimates by industry and across industries. For State and area industry data, contact the State Employment Security Agency for the State or States for which information is needed. For national industry-specific and cross-industry data, and for State and area cross-industry data, see the

OES Web site homepage at: http://stats.bls.gov/oeshome.htm; or call the information request line at 202-691-6569. Data will be available for SOC occupations in December 2000.

b) The Census Bureau publishes data on detailed occupations from the decennial census. Census 2000 will use the SOC to classify occupations; initial publication will be in 2002. Standard and customized tabulations will be available through its American Fact Finder via the Internet at: http://www.census.gov. Only summary data will be published on paper.

c) Biennially, the Bureau of Labor Statistics' Office of Employment Projections (OEP) publishes the *Occupational Outlook Handbook, Career Guide to Industries, and Occupational Projections and Training Data*. In addition, OEP publishes the *Occupational Outlook Quarterly*. For more information about these publications, visit the OEP Web site at: http://stats.bls.gov/emphome.htm; or contact the Chief, Division of Occupational Outlook, Bureau of Labor Statistics, 2 Massachusetts Ave. NW., Washington, DC 20212.

d) The Department of Defense publishes data that cross-reference military occupational codes of the Army, Navy, Air Force, Marine Corps, and Coast Guard with civilian equivalent occupations. The next update of these data will include linkages of military occupations to the SOC. Additional information on available data products can be obtained on the Internet at: http://www.dmdc.osd.mil; or by writing to Director, Defense Manpower Data Center, 1600 Wilson Boulevard, Suite 400, Arlington, VA 22209-2593.

e) The National Science Foundation (NSF) Division of Science Resources Studies Web site contains SESTAT, a comprehensive and integrated system of information about the employment, education and demographic characteristics of scientists and engineers in the United States. It is intended for both policy analysis and general research, having features for both the casual and more intensive data user. More information may be obtained from the NSF Web site at: http://www.nsf.gov/sbe/srs/stats.htm.

f) O*NET is a comprehensive database system with access to descriptions and classifications of job requirements and worker competencies. It will replace the *Dictionary of Occupational Titles* as a source of occupational information, offering a more dynamic framework for understanding the modern workplace. For more information, visit the O*NET Web site at: http://www.doleta.gov/programs/onet; or write to O*NET Project Director, U.S. Department of Labor, ETA/Office of Policy and Research, 200 Constitution Ave., NW, Washington, DC 20210.

4. Why are there different levels of detail in the SOC?

The four hierarchical levels in the SOC enable users to choose the level or levels of detail corresponding to their interest and ability to analyze data on different occupations. Users using different levels of detail will still be able to compare data at the defined levels.

5. Why can't I find my job title in the SOC?

This manual lists occupations that may have many different job titles. It does not attempt to provide an exhaustive list of job titles. An extensive list of associated job titles will be available on the SOC Web site at: http://stats.bls.gov/soc/soc_home.htm. If your title is not listed, you may email soc@bls.gov to suggest its inclusion.

6. Why are supervisors of most professional occupations not listed? Where should they be classified?

Supervisors of professional occupations are classified with the occupations they supervise because they often must have the same type of training, education, and experience as the workers they supervise.

7. When is the next revision of the SOC scheduled?

To ensure that the successful efforts of the SOCRPC continue and that the SOC remains appropriate to the world of work, OMB has established a new standing committee, the Standard Occupational Classification Policy Committee (SOCPC). The SOCPC will consult periodically to ensure that the implementation of the SOC is comparable across Federal agencies. This consultation will include regularly scheduled interagency communication to ensure a smooth transition to the SOC. The SOCPC also will perform SOC maintenance functions, such as recommending changes in the SOC occupational definitions and placement of new occupations. The next major review and revision of the SOC is expected to begin in 2005, in preparation for use in the 2010 Decennial Census.

8. Can the SOC be used for nonstatistical purposes?

The SOC was designed solely for statistical purposes. Although it is likely that the SOC also will be used for various nonstatistical purposes (e.g., for administrative, regulatory, or taxation functions), the requirements of government agencies that choose to use the SOC for nonstatistical purposes have played no role in its development, nor will OMB modify the classification to meet the requirements of any nonstatistical program.

Consequently, as has been the case with the 1980 SOC (Statistical Policy Directive No. 10, Standard Occupational Classification), the current SOC is not to be used in any administrative, regulatory, or tax program unless the head of the agency administering that program has first determined that the use of such occupational definitions is appropriate to the implementation of the program's objectives.

9. Where can I obtain an electronic version or additional printed versions of the SOC?

U.S. Department of Commerce
Technology Administration
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(703) 605-6000 or 1-800-553-NTIS (6847)
Order Number: PB2000-105544 (paper)
Order Number: PB2000-500061 (CD-ROM)

Bernan Associates
4611-F Assembly Drive
Lanham, MD 20706
Ordering Information:
800-274-4447
info@bernan.com
www.bernan.com
Order Number: BJV2926 (paper)
Order Number: NTIS3771 (CD-ROM)

Information in this manual also can be found on the SOC Internet site at:
http://stats.bls.gov/soc/soc_home.htm

11-0000 MANAGEMENT OCCUPATIONS

11-1000 TOP EXECUTIVES

11-1010 CHIEF EXECUTIVES

This broad occupation is the same as the detailed occupation:
11-1011 Chief Executives

11-1011 Chief Executives
Determine and formulate policies and provide the overall direction of companies or private and public sector organizations within the guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.

Illustrative Examples: Board Member; Chief Operating Officer; President

11-1020 GENERAL AND OPERATIONS MANAGERS

This broad occupation is the same as the detailed occupation:
11-1021 General and Operations Managers

11-1021 General and Operations Managers
Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Includes owners and managers who head small business establishments whose duties are primarily managerial. Excludes "First-Line Supervisors/Managers of Retail Sales Workers" (41-1011) and workers in other small establishments.

Illustrative Examples: Industrial Organization Manager; District Manager; Department Store General Manager

11-1030 LEGISLATORS

This broad occupation is the same as the detailed occupation:
11-1031 Legislators

11-1031 Legislators
Develop laws and statutes at the Federal, State, or local level. Includes only elected officials.

Illustrative Examples: Representative; Council Member; Senator

11-2000 ADVERTISING, MARKETING, PROMOTIONS, PUBLIC RELATIONS, AND SALES MANAGERS

11-2010 Advertising and Promotions Managers
This broad occupation is the same as the detailed occupation:
11-2011 Advertising and Promotions Managers

11-2011 Advertising and Promotions Managers
Plan and direct advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or give-aways, to create extra interest in the purchase of a product or service for a department, an entire organization, or on an account basis.

Illustrative Examples: Campaign Director; Circulation Director; Media Director

11-2020 Marketing and Sales Managers
This broad occupation includes the following two detailed occupations:
11-2021 Marketing Managers
11-2022 Sales Managers

11-2021 Marketing Managers
Determine the demand for products and services offered by a firm and its competitors and identify potential customers. Develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.

Illustrative Examples: Fashion Coordinator; Marketing Director

11-2022 Sales Managers
Direct the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze

sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers.

Illustrative Examples: Director of Sales; Export Manager; Regional Sales Manager

11-2030 Public Relations Managers

This broad occupation is the same as the detailed occupation:
11-2031 Public Relations Managers

11-2031 Public Relations Managers
Plan and direct public relations programs designed to create and maintain a favorable public image for employer or client; or if engaged in fundraising, plan and direct activities to solicit and maintain funds for special projects and nonprofit organizations.

Illustrative Examples: Fundraising Director; Public Information Director; Publicity Director

11-3000 OPERATIONS SPECIALTIES MANAGERS

11-3010 Administrative Services Managers

This broad occupation is the same as the detailed occupation:
11-3011 Administrative Services Managers

11-3011 Administrative Services Managers
Plan, direct, or coordinate supportive services of an organization, such as recordkeeping, mail distribution, telephone operator/receptionist, and other office support services. May oversee facilities planning and maintenance and custodial operations. Excludes "Purchasing Managers" (11-3061).

Illustrative Examples: Facilities Manager; Space Officer

11-3020 Computer and Information Systems Managers

This broad occupation is the same as the detailed occupation:
11-3021 Computer and Information Systems Managers

11-3021 Computer and Information Systems Managers
Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Excludes "Computer Specialists" (15-1011 through 15-1099).

Illustrative Examples: Data Processing Manager; Computer Programming Manager; Data Systems Manager

11-3030 Financial Managers

This broad occupation is the same as the detailed occupation:
11-3031 Financial Managers

11-3031 Financial Managers
Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.

Illustrative Examples: Bank Director; Comptroller; Budget Director

11-3040 Human Resources Managers

This broad occupation includes the following three detailed occupations:
11-3041 Compensation and Benefits Managers
11-3042 Training and Development Managers
11-3049 Human Resources Managers, All Other

11-3041 Compensation and Benefits Managers
Plan, direct, or coordinate compensation and benefits activities and staff of an organization. Includes job analysis and position description managers.

Illustrative Examples: Employee Benefits Director; Job Analysis Manager; Wage and Salary Administrator

11-3042 Training and Development Managers
Plan, direct, or coordinate the training and development activities and staff of an organization.

Illustrative Examples: Efficiency Manager; Education and Training Manager; Training Director

11-3049 Human Resources Managers, All Other
All Human Resources Managers not listed separately.

Illustrative Examples: Director of Industrial Relations; Employee Wellness/Fitness Coordinator; Personnel Director

11-3050 Industrial Production Managers

This broad occupation is the same as the detailed occupation:
11-3051 Industrial Production Managers

11-3051 Industrial Production Managers
Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

Illustrative Examples: Factory Superintendent; Plant Manager; Quality Control Manager

11-3060 Purchasing Managers

This broad occupation is the same as the detailed occupation:
11-3061 Purchasing Managers

11-3061 Purchasing Managers
Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Includes wholesale or retail trade merchandising managers and procurement managers.

Illustrative Examples: Director of Purchasing; Merchandise Manager; Procurement Manager

11-3070 Transportation, Storage, and Distribution Managers

This broad occupation is the same as the detailed occupation:
11-3071 Transportation, Storage, and Distribution Managers

11-3071 Transportation, Storage, and Distribution Managers
Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with governmental policies and regulations. Includes logistics managers.

Illustrative Examples: Airport Manager; Schedule Planning Manager; Warehouse Manager

11-9000 OTHER MANAGEMENT OCCUPATIONS

11-9010 Agricultural Managers

This broad occupation includes the following two detailed occupations:
11-9011 Farm, Ranch, and Other Agricultural Managers
11-9012 Farmers and Ranchers

11-9011 Farm, Ranch, and Other Agricultural Managers
On a paid basis, manage farms, ranches, aquacultural operations, greenhouses, nurseries, timber tracts, cotton gins, packing houses, or other agricultural establishments for employers. Carry out production, financial, and marketing decisions relating to the managed operations following guidelines from the owner. May contract tenant farmers or producers to carry out the day-to-day activities of the managed operation. May supervise planting, cultivating, harvesting, and marketing activities. May prepare cost, production, and other records. May perform physical work and operate machinery.

Illustrative Examples: Fruit Grower; Farm Livestock Manager; Nursery and Greenhouse Manager

11-9012 Farmers and Ranchers
On an ownership or rental basis, operate farms, ranches, greenhouses, nurseries, timber tracts, or other agricultural production establishments which produce crops, horticultural specialties, livestock, poultry, finfish, shellfish, or animal specialties. Includes operators of cotton gins, packing houses, and other post-harvest operations. May plant, cultivate, harvest, perform post-harvest activities, and market crops and livestock; may hire, train, and supervise farm workers or supervise a farm labor contractor; may prepare cost, production, and other records. May maintain and operate machinery and perform physical work.

Illustrative Examples: Beekeeper; Dairy Farmer; Tobacco Grower

11-9020 Construction Managers

This broad occupation is the same as the detailed occupation:
11-9021 Construction Managers

11-9021 Construction Managers

Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. Includes specialized construction fields, such as carpentry or plumbing. Includes general superintendents, project managers, and constructors who manage, coordinate, and supervise the construction process.

Illustrative Examples: Masonry Contractor Administrator; Developer; General Contractor

11-9030 Education Administrators

This broad occupation includes the following four detailed occupations:
11-9031 Education Administrators, Preschool and Child Care Center/Program
11-9032 Education Administrators, Elementary and Secondary School
11-9033 Education Administrators, Postsecondary
11-9039 Education Administrators, All Other

11-9031 Education Administrators, Preschool and Child Care Center/Program

Plan, direct, or coordinate the academic and nonacademic activities of preschool and child care centers or programs. Excludes "Preschool Teachers" (25-2011).

Illustrative Examples: Director of Child Care Center; Head Start Director

11-9032 Education Administrators, Elementary and Secondary School

Plan, direct, or coordinate the academic, clerical, or auxiliary activities of public or private elementary or secondary level schools.

Illustrative Examples: Director of Physical Education; Curriculum Director; School Principal

11-9033 Education Administrators, Postsecondary
Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.

Illustrative Examples: Director of Student Affairs; Dean; Registrar

11-9039 Education Administrators, All Other
All education administrators not listed separately.

Illustrative Examples: Director of Extension Work; Director of Vocational Training; Health Education Director

11-9040 Engineering Managers

This broad occupation is the same as the detailed occupation:
11-9041 Engineering Managers

11-9041 Engineering Managers
Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields. Excludes "Natural Sciences Managers" (11-9121).

Illustrative Examples: Engineering Research Manager; Safety Director; Technical Director

11-9050 Food Service Managers

This broad occupation is the same as the detailed occupation:
11-9051 Food Service Managers

11-9051 Food Service Managers
Plan, direct, or coordinate activities of an organization or department that serves food and beverages.

Illustrative Examples: Banquet Director; Restaurant Manager; Catering Manager

11-9060 Funeral Directors

This broad occupation is the same as the detailed occupation:
11-9061 Funeral Directors

11-9061 Funeral Directors
Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary for embalming, interviewing family or other authorized person to arrange details, selecting pallbearers, procuring official for religious rites, and providing transportation for mourners.

Illustrative Examples: Mortician; Funeral Home Manager; Undertaker

11-9070 Gaming Managers
This broad occupation is the same as the detailed occupation:
11-9071 Gaming Managers

11-9071 Gaming Managers
Plan, organize, direct, control, or coordinate gaming operations in a casino. Formulate gaming policies for their area of responsibility.

Illustrative Examples: Casino Manager; Blackjack Manager; Dice Manager

11-9080 Lodging Managers
This broad occupation is the same as the detailed occupation:
11-9081 Lodging Managers

11-9081 Lodging Managers
Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations. Excludes "Food Service Managers" (11-9051) in lodging establishments.

Illustrative Examples: Director of Housing; Innkeeper; Hotel Manager

11-9110 Medical and Health Services Managers
This broad occupation is the same as the detailed occupation:
11-9111 Medical and Health Services Managers

11-9111 Medical and Health Services Managers
Plan, direct, or coordinate medicine and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.

Illustrative Examples: Director of Occupational Therapy; Medical Records Administrator; Public Health Administrator

11-9120 Natural Sciences Managers

This broad occupation is the same as the detailed occupation:
11-9121 Natural Sciences Managers

11-9121 Natural Sciences Managers
Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields. Excludes "Engineering Managers" (11-9041) and "Computer and Information Systems Managers" (11-3021).

Illustrative Examples: Geophysical Manager; Research and Development Director; Wildlife Manager

11-9130 Postmasters and Mail Superintendents

This broad occupation is the same as the detailed occupation:
11-9131 Postmasters and Mail Superintendents

11-9131 Postmasters and Mail Superintendents
Direct and coordinate operational, administrative, management, and supportive services of a U.S. post office; or coordinate activities of workers engaged in postal and related work in assigned post office.

11-9140 Property, Real Estate, and Community Association Managers

This broad occupation is the same as the detailed occupation:
11-9141 Property, Real Estate, and Community Association Managers

11-9141 Property, Real Estate, and Community Association Managers
Plan, direct, or coordinate selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties. Includes managers of homeowner and condominium associations, rented or leased housing units, buildings, or land (including rights-of-way).

Illustrative Examples: Condominium Association Manager; Trailer Park Manager

11-9150 Social and Community Service Managers

This broad occupation is the same as the detailed occupation:
11-9151 Social and Community Service Managers

11-9151 Social and Community Service Managers

Plan, organize, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits. Work may involve directing social workers, counselors, or probation officers.

Illustrative Examples: Child Welfare Director; Youth Program Director; Director of Casework Services

11-9190 Miscellaneous Managers

This broad occupation is the same as the detailed occupation:
11-9199 Managers, All Other

11-9199 Managers, All Other

All managers not listed separately.

Illustrative Examples: City Clerk; Publisher; Communications Manager

13-0000 BUSINESS AND FINANCIAL OPERATIONS OCCUPATIONS

13-1000 BUSINESS OPERATIONS SPECIALISTS

13-1010 AGENTS AND BUSINESS MANAGERS OF ARTISTS, PERFORMERS, AND ATHLETES

This broad occupation is the same as the detailed occupation:
13-1011 Agents and Business Managers of Artists, Performers, and Athletes

13-1011 Agents and Business Managers of Artists, Performers, and Athletes
Represent and promote artists, performers, and athletes to prospective employers. May handle contract negotiation and other business matters for clients.

Illustrative Examples: Booking Agent; Boxing Promoter; Theatrical Agent

13-1020 BUYERS AND PURCHASING AGENTS

This broad occupation includes the following three detailed occupations:
13-1021 Purchasing Agents and Buyers, Farm Products
13-1022 Wholesale and Retail Buyers, Except Farm Products
13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products

13-1021 Purchasing Agents and Buyers, Farm Products
Purchase farm products either for further processing or resale. Includes Christmas tree contractors, grain brokers and market operators, grain buyers, and tobacco buyers.

Illustrative Examples: Cotton Broker; Livestock Buyer; Tobacco Buyer

13-1022 Wholesale and Retail Buyers, Except Farm Products
Buy merchandise or commodities, other than farm products, for resale to consumers at the wholesale or retail level, including both durable and nondurable goods. Analyze past buying trends, sales records, price, and quality of merchandise to determine value and yield. Select, order, and authorize payment for merchandise according to contractual agreements. May conduct meetings with sales personnel and introduce new products. Includes assistant buyers.

Illustrative Examples: Importer; Merchandiser; Wholesale Jobber

13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products
Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing. Includes contract specialists, field contractors, purchasers, price analysts, tooling coordinators, and media buyers. Excludes "Purchasing Agents and Buyers, Farm Products" (13-1021) and "Wholesale and Retail Buyers, Except Farm Products" (13-1022).

Illustrative Examples: Fuel Buyer; Lumber Buyer; Radio Time Buyer

13-1030 Claims Adjusters, Appraisers, Examiners, and Investigators

This broad occupation includes the following two detailed occupations:
13-1031 Claims Adjusters, Examiners, and Investigators
13-1032 Insurance Appraisers, Auto Damage

13-1031 Claims Adjusters, Examiners, and Investigators
Review settled claims to determine that payments and settlements have been made in accordance with company practices and procedures, ensuring that proper methods have been followed. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation.

Illustrative Examples: Health Insurance Adjuster; Arson Investigator; Claims Agent

13-1032 Insurance Appraisers, Auto Damage
Appraise automobile or other vehicle damage to determine cost of repair for insurance claim settlement and seek agreement with automotive repair shop on cost of repair. Prepare insurance forms to indicate repair cost or cost estimates and recommendations.

Illustrative Example: Auto Damage Estimator

13-1040 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation

This broad occupation is the same as the detailed occupation:
13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation

13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and other compliance and enforcement inspection activities not classified elsewhere. Excludes "Tax Examiners, Collectors, and Revenue Agents" (13-2081) and "Financial Examiners" (13-2061).

Illustrative Examples: Truant Officer; Coroner; Inspector of Weights and Measures

13-1050 Cost Estimators

This broad occupation is the same as the detailed occupation:
13-1051 Cost Estimators

13-1051 Cost Estimators
Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.

Illustrative Examples: Construction Estimator; Crating and Moving Estimator; Job Estimator

13-1060 Emergency Management Specialists

This broad occupation is the same as the detailed occupation:
13-1061 Emergency Management Specialists

13-1061 Emergency Management Specialists
Coordinate disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies, hazardous materials spills) disasters or hostage situations.

Illustrative Examples: Director of Civil Defense; Public Safety Director

13-1070 Human Resources, Training, and Labor Relations Specialists

This broad occupation includes the following four detailed occupations:
13-1071 Employment, Recruitment, and Placement Specialists
13-1072 Compensation, Benefits, and Job Analysis Specialists
13-1073 Training and Development Specialists
13-1079 Human Resources, Training, and Labor Relations Specialists, All Other

13-1071 Employment, Recruitment, and Placement Specialists

Recruit and place workers.

Illustrative Examples: Employment Interviewer; Personnel Recruiter; Placement Assistant

13-1072 Compensation, Benefits, and Job Analysis Specialists

Conduct programs of compensation and benefits and job analysis for employer. May specialize in specific areas, such as position classification and pension programs.

Illustrative Examples: Occupational Analyst; Relocation Director; Wage Conciliator

13-1073 Training and Development Specialists

Conduct training and development programs for employees.

Illustrative Examples: Training Coordinator; Workforce Development Specialist; Supervisor, Training Personnel

13-1079 Human Resources, Training, and Labor Relations Specialists, All Other

All human resources, training, and labor relations specialists not listed separately.

Illustrative Examples: Personnel Arbitrator; Employee Relations Specialist

13-1080 Logisticians

This broad occupation is the same as the detailed occupation:
13-1081 Logisticians

13-1081 Logisticians

Analyze and coordinate the logistical functions of a firm or organization. Responsible for the entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources.

Illustrative Examples: Logistics Engineer; Logistics Analyst; Logistics Planner

13-1110 Management Analysts

This broad occupation is the same as the detailed occupation:
13-1111 Management Analysts

13-1111 Management Analysts

Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants. Excludes "Computer Systems Analysts" (15-1051) and "Operations Research Analysts" (15-2031).

Illustrative Examples: Business Consultant; Industrial Analyst; Price Analyst

13-1120 Meeting and Convention Planners

This broad occupation is the same as the detailed occupation:
13-1121 Meeting and Convention Planners

13-1121 Meeting and Convention Planners

Coordinate activities of staff and convention personnel to make arrangements for group meetings and conventions.

Illustrative Examples: Conference Planner; Conference Service Coordinator; Convention Manager

13-1190 Miscellaneous Business Operations Specialists

This broad occupation is the same as the detailed occupation:
13-1199 Business Operations Specialists, All Other

13-1199 Business Operations Specialists, All Other
All business operations specialists not listed separately.

Illustrative Examples: Grant Coordinator; Liaison Officer; Purser

13-2000 FINANCIAL SPECIALISTS

13-2010 Accountants and Auditors

This broad occupation is the same as the detailed occupation:
13-2011 Accountants and Auditors

13-2011 Accountants and Auditors
Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data.

Illustrative Examples: Bursar; Certified Public Accountant; Tax Accountant

13-2020 Appraisers and Assessors of Real Estate

This broad occupation is the same as the detailed occupation:
13-2021 Appraisers and Assessors of Real Estate

13-2021 Appraisers and Assessors of Real Estate
Appraise real property to determine its fair value. May assess taxes in accordance with prescribed schedules.

Illustrative Examples: Building Appraiser; County Assessor; Property Evaluator

13-2030 Budget Analysts

This broad occupation is the same as the detailed occupation:
13-2031 Budget Analysts

13-2031 Budget Analysts
Examine budget estimates for completeness, accuracy, and conformance with

procedures and regulations. Analyze budgeting and accounting reports for the purpose of maintaining expenditure controls.

Illustrative Examples: Budget Examiner; Fiscal Agent; Fiscal Officer

13-2040 Credit Analysts

This broad occupation is the same as the detailed occupation:
13-2041 Credit Analysts

13-2041 Credit Analysts

Analyze current credit data and financial statements of individuals or firms to determine the degree of risk involved in extending credit or lending money. Prepare reports with this credit information for use in decision-making.

Illustrative Examples: Credit Negotiator; Escrow Representative; Factorer

13-2050 Financial Analysts and Advisors

This broad occupation includes the following three detailed occupations:
13-2051 Financial Analysts
13-2052 Personal Financial Advisors
13-2053 Insurance Underwriters

13-2051 Financial Analysts

Conduct quantitative analyses of information affecting investment programs of public or private institutions.

Illustrative Examples: Bond Analyst; Investment Analyst; Securities Consultant

13-2052 Personal Financial Advisors

Advise clients on financial plans utilizing knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets, liabilities, cash flow, insurance coverage, tax status, and financial objectives to establish investment strategies.

Illustrative Examples: Budget Counselor; Financial Planner; Estate Planner

13-2053 Insurance Underwriters
Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.

Illustrative Examples: Bond Underwriter; Insurance Analyst

13-2060 Financial Examiners

This broad occupation is the same as the detailed occupation:
13-2061 Financial Examiners

13-2061 Financial Examiners
Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions. May examine, verify correctness of, or establish authenticity of records.

Illustrative Examples: Bank Examiner; Payroll Examiner; Pension Examiner

13-2070 Loan Counselors and Officers

This broad occupation includes the following two detailed occupations:
13-2071 Loan Counselors
13-2072 Loan Officers

13-2071 Loan Counselors
Provide guidance to prospective loan applicants who have problems qualifying for traditional loans. Guidance may include determining the best type of loan and explaining loan requirements or restrictions.

Illustrative Examples: Credit Counselor; Farm Mortgage Agent; Financial Aid Counselor

13-2072 Loan Officers
Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments. Includes mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters.

Illustrative Examples: Loan Reviewer; Escrow Officer; Mortgage Consultant

13-2080 Tax Examiners, Collectors, Preparers, and Revenue Agents

This broad occupation includes the following two detailed occupations:
13-2081 Tax Examiners, Collectors, and Revenue Agents
13-2082 Tax Preparers

13-2081 Tax Examiners, Collectors, and Revenue Agents

Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.

Illustrative Examples: Tax Investigator; Revenue Agent; Tax Auditor

13-2082 Tax Preparers

Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited or certified public accountant.

Illustrative Examples: Income Tax Advisor; Income Tax Consultant; Tax Specialist

13-2090 Miscellaneous Financial Specialists

This broad occupation is the same as the detailed occupation:
13-2099 Financial Specialists, All Other

13-2099 Financial Specialists, All Other

All financial specialists not listed separately.

Illustrative Examples: Bail Bondsman; Executor of Estate; Foreign Exchange Trader

15-0000 COMPUTER AND MATHEMATICAL SCIENCE OCCUPATIONS

15-1000 COMPUTER SPECIALISTS

15-1010 Computer and Information Scientists, Research

This broad occupation is the same as the detailed occupation: 15-1011 Computer and Information Scientists, Research

15-1011 Computer and Information Scientists, Research

Conduct research into fundamental computer and information science as theorists, designers, or inventors. Solve or develop solutions to problems in the field of computer hardware and software.

15-1020 Computer Programmers

This broad occupation is the same as the detailed occupation: 15-1021 Computer Programmers

15-1021 Computer Programmers

Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information. May program web sites.

Illustrative Examples: Computer Programmer Aide; Mainframe Programmer; Systems Programmer

15-1030 Computer Software Engineers

This broad occupation includes the following two detailed occupations:
15-1031 Computer Software Engineers, Applications
15-1032 Computer Software Engineers, Systems Software

15-1031 Computer Software Engineers, Applications

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinat-

ing database development as part of a team. Excludes "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Applications Developer; Programmer Analyst; Software Designer

15-1032 Computer Software Engineers, Systems Software
Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. Apply principles and techniques of computer science, engineering, and mathematical analysis.

Illustrative Example: EDP Systems Engineers

15-1040 Computer Support Specialists
This broad occupation is the same as the detailed occupation:
15-1041 Computer Support Specialists

15-1041 Computer Support Specialists
Provide technical assistance to computer system users. Answer questions or resolve computer problems for clients in person, via telephone or from remote location. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Excludes "Network and Computer Systems Administrators" (15-1071).

Illustrative Examples: Customer Support Analyst; Help Desk Technician; Work Station Support Specialist

15-1050 Computer Systems Analysts
This broad occupation is the same as the detailed occupation:
15-1051 Computer Systems Analysts

15-1051 Computer Systems Analysts
Analyze science, engineering, business, and all other data processing problems for application to electronic data processing systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations.

May analyze or recommend commercially available software. Excludes persons working primarily as "Engineers" (17-2011 through 17-2199), "Mathematicians" (15-2021), or "Scientists" (19-1011 through 19-3099). May supervise computer programmers.

Illustrative Examples: Health Systems Computer Analyst; Data Processing Systems Project Planner; Information Systems Consultant

15-1060 Database Administrators

This broad occupation is the same as the detailed occupation:
15-1061 Database Administrators

15-1061 Database Administrators

Coordinate changes to computer databases, test and implement the database applying knowledge of database management systems. May plan, coordinate, and implement security measures to safeguard computer databases.

Illustrative Examples: Automatic Data Processing Planner; Data Base Design Analyst; Database Security Administrator

15-1070 Network and Computer Systems Administrators

This broad occupation is the same as the detailed occupation:
15-1071 Network and Computer Systems Administrators

15-1071 Network and Computer Systems Administrators

Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintain network hardware and software. Monitor network to ensure network availability to all system users and perform necessary maintenance to support network availability. May supervise other network support and client server specialists and plan, coordinate, and implement network security measures. Excludes "Computer Support Specialists" (15-1041).

Illustrative Examples: LAN/WAN Administrator; Network Control Operator; Network Security Administrator

15-1080 Network Systems and Data Communications Analysts

This broad occupation is the same as the detailed occupation:
15-1081 Network Systems and Data Communications Analysts

15-1081 Network Systems and Data Communications Analysts
Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Research and recommend network and data communications hardware and software. Includes telecommunications specialists who deal with the interfacing of computer and communications equipment. May supervise computer programmers.

Illustrative Examples: Internet Developer; Systems Integrator; Webmaster

15-1090 Miscellaneous Computer Specialists

This broad occupation is the same as the detailed occupation:
15-1099 Computer Specialists, All Other

15-1099 Computer Specialists, All Other
All computer specialists not listed separately.

Illustrative Example: Computer Laboratory Technician

15-2000 MATHEMATICAL SCIENCE OCCUPATIONS

15-2010 Actuaries

This broad occupation is the same as the detailed occupation:
15-2011 Actuaries

15-2011 Actuaries
Analyze statistical data, such as mortality, accident, sickness, disability, and retirement rates and construct probability tables to forecast risk and liability for payment of future benefits. May ascertain premium rates required and cash reserves necessary to ensure payment of future benefits.

Illustrative Example: Actuarial Mathematician

15-2020 Mathematicians

This broad occupation is the same as the detailed occupation:
15-2021 Mathematicians

15-2021 Mathematicians

Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve or direct solutions to problems in various fields by mathematical methods.

Illustrative Examples: Algebraist; Cipher Expert; Cryptographer

15-2030 Operations Research Analysts

This broad occupation is the same as the detailed occupation:
15-2031 Operations Research Analysts

15-2031 Operations Research Analysts

Formulate and apply mathematical modeling and other optimizing methods using a computer to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions. May develop related software, service, or products. Frequently concentrates on collecting and analyzing data and developing decision support software. May develop and supply optimal time, cost, or logistics networks for program evaluation, review, or implementation.

Illustrative Examples: Procedure Analyst; Method Consultant; Standards Analyst

15-2040 Statisticians

This broad occupation is the same as the detailed occupation:
15-2041 Statisticians

15-2041 Statisticians

Engage in the development of mathematical theory or apply statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields, such as bio-statistics, agricultural statistics, business statistics, economic statistics, or other fields. Includes mathematical statisticians.

Illustrative Examples: Biometrician; Sampling Expert; Statistical Analyst

15-2090 Miscellaneous Mathematical Science Occupations

This broad occupation includes the following two detailed occupations:
15-2091 Mathematical Technicians
15-2099 Mathematical Scientists, All Other

15-2091 Mathematical Technicians

Apply standardized mathematical formulas, principles, and methodology to technological problems in engineering and physical sciences in relation to specific industrial and research objectives, processes, equipment, and products.

15-2099 Mathematical Science Occupations, All Other

All mathematical scientists not listed separately.

Illustrative Examples: Geometrician; Harmonic Analyst; Weight Analyst

17-0000 ARCHITECTURE AND ENGINEERING OCCUPATIONS

17-1000 ARCHITECTS, SURVEYORS, AND CARTOGRAPHERS

17-1010 Architects, Except Naval

This broad occupation includes the following two detailed occupations:
17-1011 Architects, Except Landscape and Naval
17-1012 Landscape Architects

17-1011 Architects, Except Landscape and Naval
Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.

Illustrative Examples: Architectural Designer; Building Consultant; Site Planner

17-1012 Landscape Architects
Plan and design land areas for such projects as parks and other recreational facilities, airports, highways, hospitals, schools, land subdivisions, and commercial, industrial, and residential sites.

Illustrative Examples: Environmental Planner; Land Planner; Landscape Designer

17-1020 Surveyors, Cartographers, and Photogrammetrists

This broad occupation includes the following two detailed occupations:
17-1021 Cartographers and Photogrammetrists
17-1022 Surveyors

17-1021 Cartographers and Photogrammetrists
Collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data. Research, study, and prepare maps and other spatial data in digital or graphic form for legal, social, political, educational, and design purposes. May work with Geographic Information Systems (GIS). May design and evaluate algorithms, data structures, and user interfaces for GIS and mapping systems.

Illustrative Examples: Field Map Editor; Mapper; Topographer

17-1022 Surveyors
Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction, and other purposes.

Illustrative Examples: Geodetic Surveyor; Land Examiner; Mineral Surveyor

17-2000 ENGINEERS

17-2010 Aerospace Engineers
This broad occupation is the same as the detailed occupation:
17-2011 Aerospace Engineers

17-2011 Aerospace Engineers
Perform a variety of engineering work in designing, constructing, and testing aircraft, missiles, and spacecraft. May conduct basic and applied research to evaluate adaptability of materials and equipment to aircraft design and manufacture. May recommend improvements in testing equipment and techniques.

Illustrative Examples: Aerodynamicist; Flight Test Engineer; Aeronautical Engineer

17-2020 Agricultural Engineers
This broad occupation is the same as the detailed occupation:
17-2021 Agricultural Engineers

17-2021 Agricultural Engineers
Apply knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing of agricultural products.

Illustrative Examples: Farm Equipment Engineer; Agricultural Research Engineer

17-2030 Biomedical Engineers
This broad occupation is the same as the detailed occupation:
17-2031 Biomedical Engineers

17-2031 Biomedical Engineers
Apply knowledge of engineering, biology, and biomechanical principles to the design, development, and evaluation of biological and health systems and products, such as artificial organs, prostheses, instrumentation, medical information systems, and heath management and care delivery systems.

Illustrative Example: Orthopedic Designer

17-2040 Chemical Engineers
This broad occupation is the same as the detailed occupation:
17-2041 Chemical Engineers

17-2041 Chemical Engineers
Design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles and technology of chemistry, physics, and engineering.

Illustrative Examples: Absorption and Adsorption Engineer; Explosives Engineer; Fuels Engineer

17-2050 Civil Engineers
This broad occupation is the same as the detailed occupation:
17-2051 Civil Engineers

17-2051 Civil Engineers
Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Includes architectural, structural, traffic, ocean, and geo-technical engineers. Excludes "Hydrologists" (19-2043).

Illustrative Examples: Bridge Engineer; Construction Engineer; Concrete Engineer

17-2060 Computer Hardware Engineers
This broad occupation is the same as the detailed occupation:
17-2061 Computer Hardware Engineers

17-2061 Computer Hardware Engineers
Research, design, develop, and test computer or computer-related equipment for commercial, industrial, military, or scientific use. May supervise the manufacturing and installation of computer or computer-related equipment and components. Excludes "Computer Software Engineers, Applications" (15-1031) and "Computer Software Engineers, Systems Software" (15-1032).

17-2070 Electrical and Electronics Engineers

This broad occupation includes the following two detailed occupations:
17-2071 Electrical Engineers
17-2072 Electronics Engineers, Except Computer

17-2071 Electrical Engineers
Design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Excludes "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Power Distribution Engineer; Illuminating Engineer; Relay Engineer

17-2072 Electronics Engineers, Except Computer
Research, design, develop, and test electronic components and systems for commercial, industrial, military, or scientific use utilizing knowledge of electronic theory and materials properties. Design electronic circuits and components for use in fields such as telecommunications, aerospace guidance and propulsion control, acoustics, or instruments and controls. Excludes "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Communications Engineer; Circuit Design Engineer; Guidance and Control Systems Engineer

17-2080 Environmental Engineers

This broad occupation is the same as the detailed occupation:
17-2081 Environmental Engineers

17-2081 Environmental Engineers
Design, plan, or perform engineering duties in the prevention, control, and remediation of environmental health hazards utilizing various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.

Illustrative Examples: Soil Engineer; Industrial Hygiene Engineer; Pollution Control Engineer

17-2110 Industrial Engineers, Including Health and Safety

This broad occupation includes the following two detailed occupations:
17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
17-2112 Industrial Engineers

17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
Promote worksite or product safety by applying knowledge of industrial processes, mechanics, chemistry, psychology, and industrial health and safety laws. Includes industrial product safety engineers.

Illustrative Examples: Fire-Protection Engineer; Industrial Health Engineer; Product Safety Engineer

17-2112 Industrial Engineers
Design, develop, test, and evaluate integrated systems for managing industrial production processes including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination. Excludes "Health and Safety Engineers, Except Mining Safety Engineers and Inspectors" (17-2111).

Illustrative Examples: Packaging Engineer; Time Study Engineer; Plant Engineer

17-2120 Marine Engineers and Naval Architects

This broad occupation is the same as the detailed occupation:
17-2121 Marine Engineers and Naval Architects

17-2121 Marine Engineers and Naval Architects
Design, develop, and evaluate the operation of marine vessels, ship machinery, and related equipment, such as power supply and propulsion systems.

Illustrative Examples: Marine Architect; Port Engineer; Ship Surveyor

17-2130 Materials Engineers

This broad occupation is the same as the detailed occupation:
17-2131 Materials Engineers

17-2131 Materials Engineers
Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials. Includes those working with composite materials or specializing in one type of material, such as graphite, metal and metal alloys, ceramics and glass, plastics and polymers, and naturally occurring materials. Includes metallurgists and metallurgical engineers, ceramic engineers, and welding engineers.

Illustrative Examples: Ceramic Engineer; Corrosion Engineer; Metallurgical Engineer

17-2140 Mechanical Engineers

This broad occupation is the same as the detailed occupation:
17-2141 Mechanical Engineers

17-2141 Mechanical Engineers
Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of such equipment as centralized heat, gas, water, and steam systems.

Illustrative Examples: Combustion Engineer; Plant Equipment Engineer; Hydraulic Engineer

17-2150 Mining and Geological Engineers, Including Mining Safety Engineers

This broad occupation is the same as the detailed occupation:
17-2151 Mining and Geological Engineers, Including Mining Safety Engineers

17-2151 Mining and Geological Engineers, Including Mining Safety Engineers
Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals, and building materials, such as stone and gravel. Work involves conducting preliminary surveys of deposits or undeveloped mines and planning their development; examining deposits or mines to determine whether they can be worked at a profit; making geological and topographical surveys; evolving methods of mining best suited to character, type, and size of deposits; and supervising mining operations.

Illustrative Examples: Exploration Engineer; Mineral Engineer; Mine Equipment Design Engineer

17-2160 Nuclear Engineers

This broad occupation is the same as the detailed occupation:
17-2161 Nuclear Engineers

17-2161 Nuclear Engineers
Conduct research on nuclear engineering problems or apply principles and theory of nuclear science to problems concerned with release, control, and utilization of nuclear energy and nuclear waste disposal.

Illustrative Examples: Atomic Process Engineer; Radiation Engineer; Reactor Engineer

17-2170 Petroleum Engineers

This broad occupation is the same as the detailed occupation:
17-2171 Petroleum Engineers

17-2171 Petroleum Engineers
Devise methods to improve oil and gas well production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice to achieve economical and satisfactory progress.

Illustrative Examples: Drilling Engineer; Natural Gas Engineer; Oil Well Surveying Engineer

17-2190 Miscellaneous Engineers

This broad occupation is the same as the detailed occupation:
17-2199 Engineers, All Other

17-2199 Engineers, All Other

All engineers not listed separately.

Illustrative Examples: Optical Engineer; Salvage Engineer; Ordnance Engineer

17-3000 DRAFTERS, ENGINEERING, AND MAPPING TECHNICIANS

17-3010 Drafters

This broad occupation includes the following four detailed occupations:
17-3011 Architectural and Civil Drafters
17-3012 Electrical and Electronics Drafters
17-3013 Mechanical Drafters
17-3019 Drafters, All Other

17-3011 Architectural and Civil Drafters

Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Utilize knowledge of building materials, engineering practices, and mathematics to complete drawings.

Illustrative Example: Structural Drafter

17-3012 Electrical and Electronics Drafters

Prepare wiring diagrams, circuit board assembly diagrams, and layout drawings used for manufacture, installation, and repair of electrical equipment in factories, power plants, and buildings.

17-3013 Mechanical Drafters

Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.

Illustrative Examples: Die Designer; Aeronautical Drafter

17-3019 Drafters, All Other
All drafters not listed separately.

Illustrative Examples: Geological Drafter; Hull Drafter

17-3020 Engineering Technicians, Except Drafters
This broad occupation includes the following eight detailed occupations:
17-3021 Aerospace Engineering and Operations Technicians
17-3022 Civil Engineering Technicians
17-3023 Electrical and Electronic Engineering Technicians
17-3024 Electro-Mechanical Technicians
17-3025 Environmental Engineering Technicians
17-3026 Industrial Engineering Technicians
17-3027 Mechanical Engineering Technicians
17-3029 Engineering Technicians, Except Drafters, All Other

17-3021 Aerospace Engineering and Operations Technicians
Operate, install, calibrate, and maintain integrated computer/communications systems consoles, simulators, and other data acquisition, test, and measurement instruments and equipment to launch, track, position, and evaluate air and space vehicles. May record and interpret test data.

Illustrative Examples: Wind Tunnel Technician; Flight Data Technician; Altitude Chamber Technician

17-3022 Civil Engineering Technicians
Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.

Illustrative Example: Highway Technician

17-3023 Electrical and Electronic Engineering Technicians
Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. Excludes "Broadcast Technicians" (27-4012).

Illustrative Examples: Calibration Laboratory Technician; Semiconductor Development Technician; Instrumentation Technician

17-3024 Electro-Mechanical Technicians
Operate, test, and maintain unmanned, automated, servo-mechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment at worksites, such as oil rigs, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

17-3025 Environmental Engineering Technicians
Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental pollution, including waste treatment and site remediation. May assist in the development of environmental pollution remediation devices under direction of engineer.

Illustrative Examples: Air Analysis Technician; Soil Technician

17-3026 Industrial Engineering Technicians
Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May study and record time, motion, method, and speed involved in performance of production, maintenance, clerical, and other worker operations for such purposes as establishing standard production rates or improving efficiency.

Illustrative Examples: Methods Study Analyst; Quality Control Technician; Time Study Analyst

17-3027 Mechanical Engineering Technicians
Apply theory and principles of mechanical engineering to modify, develop, and test machinery and equipment under direction of engineering staff or physical scientists.

Illustrative Examples: Heat Transfer Technician; Optomechanical Technician; Tool Analyst

17-3029 Engineering Technicians, Except Drafters, All Other
All engineering technicians, except drafters, not listed separately.

Illustrative Examples: Laser Specialist; Metallurgical Technician; Material Stress Tester

17-3030 Surveying and Mapping Technicians

This broad occupation is the same as the detailed occupation:
17-3031 Surveying and Mapping Technicians

17-3031 Surveying and Mapping Technicians

Perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes. May calculate mapmaking information and create maps from source data, such as surveying notes, aerial photography, satellite data, or other maps to show topographical features, political boundaries, and other features. May verify accuracy and completeness of topographical maps. Excludes "Surveyors" (17-1022), "Cartographers and Photogrammetrists" (17-1021), and "Geoscientists, Except Hydrologists and Geographers" (19-2042).

Illustrative Examples: Cartographic Technician; Map Drafter; Stereo Map Plotter Operator

19-0000 LIFE, PHYSICAL, AND SOCIAL SCIENCE OCCUPATIONS

19-1000 LIFE SCIENTISTS

19-1010 Agricultural and Food Scientists

This broad occupation includes the following three detailed occupations:
19-1011 Animal Scientists
19-1012 Food Scientists and Technologists
19-1013 Soil and Plant Scientists

19-1011 Animal Scientists

Conduct research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.

Illustrative Examples: Dairy Scientist; Poultry Scientist

19-1012 Food Scientists and Technologists

Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.

19-1013 Soil and Plant Scientists

Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.

Illustrative Examples: Agronomist; Plant Pathologist; Pomologist

19-1020 Biological Scientists

This broad occupation includes the following four detailed occupations:
19-1021 Biochemists and Biophysicists
19-1022 Microbiologists
19-1023 Zoologists and Wildlife Biologists
19-1029 Biological Scientists, All Other

19-1021 Biochemists and Biophysicists
Study the chemical composition and physical principles of living cells and organisms, their electrical and mechanical energy, and related phenomena. May conduct research to further understanding of the complex chemical combinations and reactions involved in metabolism, reproduction, growth, and heredity. May determine the effects of foods, drugs, serums, hormones, and other substances on tissues and vital processes of living organisms.

19-1022 Microbiologists
Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Includes medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms.

Illustrative Examples: Bacteriologist; Cytologist; Virologist

19-1023 Zoologists and Wildlife Biologists
Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas.

Illustrative Examples: Ecologist; Herpetologist; Ornithologist

19-1029 Biological Scientists, All Other
All biological scientists not listed separately.

Illustrative Examples: Geneticist; Paleobotanist; Plant Taxonomist

19-1030 Conservation Scientists and Foresters

This broad occupation includes the following two detailed occupations:
19-1031 Conservation Scientists
19-1032 Foresters

19-1031 Conservation Scientists
Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands from fire and rodent damage. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and forage plants best suited to par-

ticular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering. Excludes "Zoologists and Wildlife Biologists" (19-1023) and "Foresters" (19-1032).

Illustrative Examples: Range Manager; Conservation Officer

19-1032 Foresters
Manage forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement. May determine how to conserve wildlife habitats, creek beds, water quality, and soil stability, and how best to comply with environmental regulations. May devise plans for planting and growing new trees, monitor trees for healthy growth, and determine the best time for harvesting. Develop forest management plans for public and privately-owned forested lands.

Illustrative Examples: Forest Ecologist; Timber Management Specialist

19-1040 Medical Scientists

This broad occupation includes the following two detailed occupations:
19-1041 Epidemiologists
19-1042 Medical Scientists, Except Epidemiologists

19-1041 Epidemiologists
Investigate and describe the determinants and distribution of disease, disability, and other health outcomes and develop the means for prevention and control.

Illustrative Example: Malariologist

19-1042 Medical Scientists, Except Epidemiologists
Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation or other research, production, technical writing, or related activities. Includes medical scientists such as physicians, dentists, public health specialists, pharmacologists, and medical pathologists. Excludes practitioners who provide medical or dental care or dispense drugs. Exludes "Microbiologist" (19-1022).

Illustrative Examples: Cancer Researcher; Toxicologist

19-1090 Miscellaneous Life Scientists

This broad occupation is the same as the detailed occupation:
19-1099 Life Scientists, All Other

19-1099 Life Scientists, All Other

All life scientists not listed separately.

19-2000 PHYSICAL SCIENTISTS

19-2010 Astronomers and Physicists

This broad occupation includes the following two detailed occupations:
19-2011 Astronomers
19-2012 Physicists

19-2011 Astronomers

Observe, research, and interpret celestial and astronomical phenomena to increase basic knowledge and apply such information to practical problems.

19-2012 Physicists

Conduct research into the phases of physical phenomena, develop theories and laws on the basis of observation and experiments, and devise methods to apply laws and theories to industry and other fields.

Illustrative Examples: Fluid Dynamicist; Rheologist; Thermodynamicist

19-2020 Atmospheric and Space Scientists

This broad occupation is the same as the detailed occupation:
19-2021 Atmospheric and Space Scientists

19-2021 Atmospheric and Space Scientists

Investigate atmospheric phenomena and interpret meteorological data gathered by surface and air stations, satellites, and radar to prepare reports and forecasts for public and other uses. Includes weather analysts and forecasters whose functions require the detailed knowledge of a meteorologist.

Illustrative Examples: Climatologist; Meteorologist; Weather Forecaster

19-2030 Chemists and Materials Scientists

This broad occupation includes the following two detailed occupations:
19-2031 Chemists
19-2032 Materials Scientists

19-2031 Chemists

Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge. Excludes "Geoscientists, Except Hydrologists and Geographers" (19-2042) and "Biochemists and Biophysicists" (19-1021).

Illustrative Examples: Inorganic Chemist; Chemical Analyst

19-2032 Materials Scientists

Research and study the structures and chemical properties of various natural and manmade materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications. Includes glass scientists, ceramic scientists, metallurgical scientists, and polymer scientists.

19-2040 Environmental Scientists and Geoscientists

This broad occupation includes the following three detailed occupations:
19-2041 Environmental Scientists and Specialists, Including Health
19-2042 Geoscientists, Except Hydrologists and Geographers
19-2043 Hydrologists

19-2041 Environmental Scientists and Specialists, Including Health

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Utilizing knowledge of various scientific disciplines may collect, synthesize, study, report, and take action based on data derived from measurements or observations of air, food, soil, water, and other sources. Excludes "Zoologists and Wildlife Biologists" (19-1023), "Conservation Scientists" (19-1031), "Forest and Conservation Technicians" (19-4093), "Fish and Game Wardens" (33-3031), and "Forest and Conservation Workers" (45-4011).

Illustrative Examples: Environmental Analyst; Water Pollution Specialist

19-2042 Geoscientists, Except Hydrologists and Geographers
Study the composition, structure, and other physical aspects of the earth. May use geological, physics, and mathematics knowledge in exploration for oil, gas, minerals, or underground water; or in waste disposal, land reclamation, or other environmental problems. May study the earth's internal composition, atmospheres, oceans, and its magnetic, electrical, and gravitational forces. Includes mineralogists, crystallographers, paleontologists, stratigraphers, geodesists, and seismologists.

Illustrative Examples: Oceanographer; Paleontologist; Seismologist

19-2043 Hydrologists
Research the distribution, circulation, and physical properties of underground and surface waters; study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.

Illustrative Example: Hydrogeologist

19-2090 Miscellaneous Physical Scientists
This broad occupation is the same as the detailed occupation:
19-2099 Physical Scientists, All Other

19-2099 Physical Scientists, All Other
All physical scientists not listed separately.

19-3000 SOCIAL SCIENTISTS AND RELATED WORKERS

19-3010 Economists
This broad occupation is the same as the detailed occupation:
19-3011 Economists

19-3011 Economists
Conduct research, prepare reports, or formulate plans to aid in solution of economic problems arising from production and distribution of goods and services. May collect and process economic and statistical data using econometric and sampling techniques. Excludes "Market Research Analysts" (19-3021).

Illustrative Examples: Econometrician; Economic Research Analyst; Industrial Economist

19-3020 Market and Survey Researchers

This broad occupation includes the following two detailed occupations:
19-3021 Market Research Analysts
19-3022 Survey Researchers

19-3021 Market Research Analysts

Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing campaign based on regional preferences and buying habits.

Illustrative Examples: Advertising Analyst; Marketing Consultant; Marketing Forecaster

19-3022 Survey Researchers

Design or conduct surveys. May supervise interviewers who conduct the survey in person or over the telephone. May present survey results to client. Excludes "Statisticians" (15-2041), "Economists" (19-3011), and "Market Research Analysts" (19-3021).

Illustrative Example: Pollster

19-3030 Psychologists

This broad occupation includes the following three detailed occupations: 19-3031 Clinical, Counseling, and School Psychologists
19-3032 Industrial-Organizational Psychologists
19-3039 Psychologists, All Other

19-3031 Clinical, Counseling, and School Psychologists

Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems using individual, child, family, and group therapies. May design and implement behavior modification programs.

Illustrative Examples: Vocational Psychologist; Child Psychologist

19-3032 Industrial-Organizational Psychologists

Apply principles of psychology to personnel, administration, management, sales, and marketing problems. Activities may include policy planning; employee screening, training and development; and organizational develop-

ment and analysis. May work with management to reorganize the work setting to improve worker productivity.

Illustrative Example: Engineering Psychologist

19-3039 Psychologists, All Other
All psychologists not listed separately.

Illustrative Examples: Social Psychologist; Psychometrist

19-3040 Sociologists

This broad occupation is the same as the detailed occupation:
19-3041 Sociologists

19-3041 Sociologists
Study human society and social behavior by examining the groups and social institutions that people form, as well as various social, religious, political, and business organizations. May study the behavior and interaction of groups, trace their origin and growth, and analyze the influence of group activities on individual members.

Illustrative Examples: Criminologist; Penologist; Social Welfare Research Worker

19-3050 Urban and Regional Planners

This broad occupation is the same as the detailed occupation:
19-3051 Urban and Regional Planners

19-3051 Urban and Regional Planners
Develop comprehensive plans and programs for use of land and physical facilities of local jurisdictions, such as towns, cities, counties, and metropolitan areas.

Illustrative Example: City Planner

19-3090 Miscellaneous Social Scientists and Related Workers

This broad occupation includes the following five detailed occupations:
19-3091 Anthropologists and Archeologists
19-3092 Geographers
19-3093 Historians
19-3094 Political Scientists
19-3099 Social Scientists and Related Workers, All Other

19-3091 Anthropologists and Archeologists

Study the origin, development, and behavior of humans. May study the way of life, language, or physical characteristics of existing people in various parts of the world. May engage in systematic recovery and examination of material evidence, such as tools or pottery remaining from past human cultures, in order to determine the history, customs, and living habits of earlier civilizations.

Illustrative Example: Political Anthropologist

19-3092 Geographers

Study nature and use of areas of earth's surface, relating and interpreting interactions of physical and cultural phenomena. Conduct research on physical aspects of a region, including land forms, climates, soils, plants and animals, and conduct research on the spatial implications of human activities within a given area, including social characteristics, economic activities, and political organization, as well as researching interdependence between regions at scales ranging from local to global.

19-3093 Historians

Research, analyze, record, and interpret the past as recorded in sources, such as government and institutional records, newspapers and other periodicals, photographs, interviews, films, and unpublished manuscripts, such as personal diaries and letters.

Illustrative Examples: Genealogist; Historical Society Director

19-3094 Political Scientists

Study the origin, development, and operation of political systems. Research a wide range of subjects, such as relations between the United States and foreign countries, the beliefs and institutions of foreign nations, or the politics of small towns or a major metropolis. May study topics, such as public opinion, political decision making, and ideology. May analyze the structure and operation of governments, as well as various political enti-

ties. May conduct public opinion surveys, analyze election results, or analyze public documents.

Illustrative Examples: Political Analyst; Political Consultant

19-3099 Social Scientists and Related Workers, All Other
All social scientists and related workers not listed separately.

Illustrative Examples: Ethnologist; Linguist; Philologist

19-4000 LIFE, PHYSICAL, AND SOCIAL SCIENCE TECHNICIANS

19-4010 Agricultural and Food Science Technicians
This broad occupation is the same as the detailed occupation:
19-4011 Agricultural and Food Science Technicians

19-4011 Agricultural and Food Science Technicians
Work with agricultural scientists in food, fiber, and animal research, production, and processing; assist with animal breeding and nutrition work; under supervision, conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. Includes technicians who assist food scientists or food technologists in the research, development, production technology, quality control, packaging, processing, and use of foods.

Illustrative Examples: Inseminator; Feed Research Technician; Dairy Technologist

19-4020 Biological Technicians
This broad occupation is the same as the detailed occupation:
19-4021 Biological Technicians

19-4021 Biological Technicians
Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs.

Illustrative Examples: Biotechnologist; Wildlife Technician; Specimen Technician

19-4030 Chemical Technicians

This broad occupation is the same as the detailed occupation:
19-4031 Chemical Technicians

19-4031 Chemical Technicians

Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes, such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences.

Illustrative Examples: Assayer; Fiber Analyst; Paint Tester

19-4040 Geological and Petroleum Technicians

This broad occupation is the same as the detailed occupation:
19-4041 Geological and Petroleum Technicians

19-4041 Geological and Petroleum Technicians

Assist scientists in the use of electrical, sonic, or nuclear measuring instruments in both laboratory and production activities to obtain data indicating potential sources of metallic ore, gas, or petroleum. Analyze mud and drill cuttings. Chart pressure, temperature, and other characteristics of wells or bore holes. Investigate and collect information leading to the possible discovery of new oil fields.

Illustrative Examples: Field Scout; Crude Tester; Seismic Observer

19-4050 Nuclear Technicians

This broad occupation is the same as the detailed occupation:
19-4051 Nuclear Technicians

19-4051 Nuclear Technicians

Assist scientists in both laboratory and production activities by performing technical tasks involving nuclear physics, primarily in operation, maintenance, production, and quality control support activities.

Illustrative Examples: Accelerator Operator; Radiation Monitor

19-4060 Social Science Research Assistants

This broad occupation is the same as the detailed occupation:
19-4061 Social Science Research Assistants

19-4061 Social Science Research Assistants

Assist social scientists in laboratory, survey, and other social research. May perform publication activities, laboratory analysis, quality control, or data management. Normally these individuals work under the direct supervision of a social scientist and assist in those activities which are more routine. Excludes "Graduate Teaching Assistants" (25-1191) who both teach and do research.

Illustrative Examples: City Planning Aide; Economic Research Assistant; Historian Research Assistant

19-4090 Miscellaneous Life, Physical, and Social Science Technicians

This broad occupation includes the following four detailed occupations:
19-4091 Environmental Science and Protection Technicians, Including Health
19-4092 Forensic Science Technicians
19-4093 Forest and Conservation Technicians
19-4099 Life, Physical, and Social Science Technicians, All Other

19-4091 Environmental Science and Protection Technicians, Including Health

Performs laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health. Under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned.

Illustrative Example: Pollution Control Technician

19-4092 Forensic Science Technicians

Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialists in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry.

Illustrative Examples: Ballistic Expert; Fingerprint Classifier; Polygraph Examiner

19-4093 Forest and Conservation Technicians
Compile data pertaining to size, content, condition, and other characteristics forest tracts, under direction of foresters; train and lead forest workers in fore propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats, and help provide technical assistance regarding the conservation of soil, wate and related natural resources.

Illustrative Examples: Grazing Examiner; Soil Tester; Tree Warden

19-4099 Life, Physical, and Social Science Technicians, All Other
All life, physical, and social science technicians not listed separately.

Illustrative Examples: Laser Technician; Radiographer; Meteorological Aide

21-0000 COMMUNITY AND SOCIAL SERVICES OCCUPATIONS

21-1000 COUNSELORS, SOCIAL WORKERS, AND OTHER COMMUNITY AND SOCIAL SERVICE SPECIALISTS

21-1010 Counselors

This broad occupation includes the following six detailed occupations:
21-1011 Substance Abuse and Behavioral Disorder Counselors
21-1012 Educational, Vocational, and School Counselors
21-1013 Marriage and Family Therapists
21-1014 Mental Health Counselors
21-1015 Rehabilitation Counselors
21-1019 Counselors, All Other

21-1011 Substance Abuse and Behavioral Disorder Counselors
Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs. Excludes "Social Workers" (21-1021 through 21-1029), "Psychologists" (19-3031 through 19-3039), and "Mental Health Counselors" (21-1014) providing these services.

Illustrative Examples: Addiction Counselor; Chemical Dependency Counselor; Drug Counselor

21-1012 Educational, Vocational, and School Counselors
Counsel individuals and provide group educational and vocational guidance services.

Illustrative Examples: Curriculum Counselor; Guidance Counselor; Educational Adviser

21-1013 Marriage and Family Therapists
Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems. Apply psychotherapeutic and family systems theories and techniques in the delivery of professional services to individuals, couples, and families for the purpose of treating such diagnosed nervous and mental disorders. Excludes "Social Workers" (21-1021 through 21-1029) and "Psychologists" of all types (19-3031 through 19-3039).

Illustrative Examples: Family Counselor; Marriage Counselor

21-1014 Mental Health Counselors
Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental health. May help individuals deal with addictions and substance abuse; family, parenting, and marital problems; suicide; stress management; problems with self-esteem; and issues associated with aging and mental and emotional health. Excludes "Social Workers" (21-1021 through 21-1029), "Psychiatrists" (29-1066), and "Psychologists" (19-3031 through 19-3039).

21-1015 Rehabilitation Counselors
Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement.

Illustrative Examples: Coordinator of Rehabilitation Services; Homemaking Rehabilitation Consultant

21-1019 Counselors, All Other
All counselors not listed separately.

Illustrative Examples: Mental Hygienist; Race Relations Adviser

21-1020 Social Workers

This broad occupation includes the following four detailed occupations:
21-1021 Child, Family, and School Social Workers
21-1022 Medical and Public Health Social Workers
21-1023 Mental Health and Substance Abuse Social Workers
21-1029 Social Workers, All Other

21-1021 Child, Family, and School Social Workers
Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well- being and the academic functioning of children. May assist single parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage preg-

nancy, misbehavior, and truancy. May also advise teachers on how to deal with problem children.

Illustrative Examples: Adoption Agent; Child Abuse Worker; Foster Care Worker

21-1022 Medical and Public Health Social Workers
Provide persons, families, or vulnerable populations with the psychosocial support needed to cope with chronic, acute, or terminal illnesses, such as Alzheimer's, cancer, or AIDS. Services include advising family care givers, providing patient education and counseling, and making necessary referrals for other social services.

Illustrative Examples: Bereavement Counselor; Hospice Social Worker; Medical Caseworker

21-1023 Mental Health and Substance Abuse Social Workers
Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.

Illustrative Examples: Community Mental Health Worker; Psychiatric Social Worker

21-1029 Social Workers, All Other
All social workers not listed separately.

Illustrative Examples: Case Worker; Case Supervisor; Welfare Investigator

21-1090 Miscellaneous Community and Social Service Specialists
This broad occupation includes the following four detailed occupations:
21-1091 Health Educators
21-1092 Probation Officers and Correctional Treatment Specialists
21-1093 Social and Human Service Assistants
21-1099 Community and Social Service Specialists, All Other

21-1091 Health Educators
Promote, maintain, and improve individual and community health by assisting individuals and communities to adopt healthy behaviors. Collect and analyze data to identify community needs prior to planning, implementing, monitoring, and evaluating programs designed to encourage healthy lifestyles, policies and environments. May also serve as a resource to assist individuals, other professionals, or the community, and may administer fiscal resources for health education programs.

Illustrative Examples: Public Health Advisor; Public Health Representative

21-1092 Probation Officers and Correctional Treatment Specialists
Provide social services to assist in rehabilitation of law offenders in custody or on probation or parole. Make recommendations for actions involving formulation of rehabilitation plan and treatment of offender, including conditional release and education and employment stipulations.

Illustrative Examples: Attendance Officer; Parole Officer

21-1093 Social and Human Service Assistants
Assist professionals from a wide variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and social and community services and help clients obtain them. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or adult daycare. Excludes "Rehabilitation Counselors" (21-1015), "Personal and Home Care Aides" (39-9021), "Eligibility Interviewers, Government Programs" (43-4061), and "Psychiatric Technicians" (29-2053).

Illustrative Examples: Case Aide; Home Visitor; Human Services Worker

21-1099 Community and Social Service Specialists, All Other
All community and social service specialists not listed separately.

Illustrative Examples: Community Organization Worker; Veteran's Service Officer

21-2000 RELIGIOUS WORKERS

21-2010 CLERGY

This broad occupation is the same as the detailed occupation:
21-2011 Clergy

21-2011 Clergy

Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.

Illustrative Examples: Bishop; Parish Priest; Rabbi

21-2020 DIRECTORS, RELIGIOUS ACTIVITIES AND EDUCATION

This broad occupation is the same as the detailed occupation:
21-2021 Directors, Religious Activities and Education

21-2021 Directors, Religious Activities and Education

Direct and coordinate activities of a denominational group to meet religious needs of students. Plan, direct, or coordinate church school programs designed to promote religious education among church membership. May provide counseling and guidance relative to marital, health, financial, and religious problems.

Illustrative Examples: Director of Religious Education; Minister of Education; Youth Director

21-2090 MISCELLANEOUS RELIGIOUS WORKERS

This broad occupation is the same as the detailed occupation:
21-2099 Religious Workers, All Other

21-2099 Religious Workers, All Other

All religious workers not listed separately.

Illustrative Examples: Religious Healer; Ecclesiastical Worker; Missionary

23-0000 LEGAL OCCUPATIONS

23-1000 LAWYERS, JUDGES, AND RELATED WORKERS

23-1010 Lawyers

This broad occupation is the same as the detailed occupation:
23-1011 Lawyers

23-1011 Lawyers
Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, and manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law.

Illustrative Examples: Attorney; Real Estate Attorney; Corporate Counsel

23-1020 Judges, Magistrates, and Other Judicial Workers

This broad occupation includes the following three detailed occupations:
23-1021 Administrative Law Judges, Adjudicators, and Hearing Officers
23-1022 Arbitrators, Mediators, and Conciliators
23-1023 Judges, Magistrate Judges, and Magistrates

23-1021 Administrative Law Judges, Adjudicators, and Hearing Officers
Conduct hearings to decide or recommend decisions on claims concerning government programs or other government-related matters and prepare decisions.
Determine penalties or the existence and the amount of liability, or recommend the acceptance or rejection of claims, or compromise settlements.

Illustrative Example: Traffic Court Referee

23-1022 Arbitrators, Mediators, and Conciliators
Facilitate negotiation and conflict resolution through dialogue. Resolve conflicts outside of the court system by mutual consent of parties involved.

Illustrative Example: Ombudsman

23-1023 Judges, Magistrate Judges, and Magistrates
Arbitrate, advise, adjudicate, or administer justice in a court of law. May sentence defendant in criminal cases according to government statutes. May

determine liability of defendant in civil cases. May issue marriage licenses and perform wedding ceremonies.

Illustrative Examples: Circuit Court Judge; Jurist; Justice

23-2000 LEGAL SUPPORT WORKERS

23-2010 Paralegals and Legal Assistants

This broad occupation is the same as the detailed occupation:
23-2011 Paralegals and Legal Assistants

23-2011 Paralegals and Legal Assistants
Assist lawyers by researching legal precedent, investigating facts, or preparing legal documents. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.

Illustrative Examples: Legal Assistant; Legal Investigator

23-2090 Miscellaneous Legal Support Workers

This broad occupation includes the following four detailed occupations:
23-2091 Court Reporters
23-2092 Law Clerks
23-2093 Title Examiners, Abstractors, and Searchers
23-2099 Legal Support Workers, All Other

23-2091 Court Reporters
Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings or other information. Includes stenocaptioners who operate computerized stenographic captioning equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers.

Illustrative Examples: Court Transcriber; Stenocaptioner; Mask Reporter

23-2092 Law Clerks
Assist lawyers or judges by researching or preparing legal documents. May meet with clients or assist lawyers and judges in court. Excludes "Lawyers" (23-1011) and "Paralegals and Legal Assistants" (23-2011).

Illustrative Example: Legal Clerk

23-2093 Title Examiners, Abstractors, and Searchers
Search real estate records, examine titles, or summarize pertinent legal or insurance details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching public and private records for law firms, real estate agencies, or title insurance companies.

Illustrative Examples: Abstract Clerk; Escrow Officer; Lien Searcher

23-2099 Legal Support Workers, All Other
All legal support workers not listed separately.

Illustrative Examples: Brief Writer; Legislative Aide; Patent Examiner

25-0000 EDUCATION, TRAINING, AND LIBRARY OCCUPATIONS

25-1000 POSTSECONDARY TEACHERS

25-1010 Business Teachers, Postsecondary

This broad occupation is the same as the detailed occupation:
25-1011 Business Teachers, Postsecondary

25-1011 Business Teachers, Postsecondary
Teach courses in business administration and management, such as accounting, finance, human resources, labor relations, marketing, and operations research. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Accounting Teacher; Marketing Teacher; Shorthand Teacher

25-1020 Math and Computer Teachers, Postsecondary

This broad occupation includes the following two detailed occupations:
25-1021 Computer Science Teachers, Postsecondary
25-1022 Mathematical Science Teachers, Postsecondary

25-1021 Computer Science Teachers, Postsecondary
Teach courses in computer science. May specialize in a field of computer science, such as the design and function of computers or operations and research analysis. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1022 Mathematical Science Teachers, Postsecondary
Teach courses pertaining to mathematical concepts, statistics, and actuarial science and to the application of original and standardized mathematical techniques in solving specific problems and situations. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Actuarial Science Teacher; Calculus Teacher; Geometry Teacher

25-1030 Engineering and Architecture Teachers, Postsecondary

This broad occupation includes the following two detailed occupations:
25-1031 Architecture Teachers, Postsecondary
25-1032 Engineering Teachers, Postsecondary

25-1031 Architecture Teachers, Postsecondary

Teach courses in architecture and architectural design, such as architectural environmental design, interior architecture/design, and landscape architecture. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Landscape Architecture Teacher

25-1032 Engineering Teachers, Postsecondary

Teach courses pertaining to the application of physical laws and principles of engineering for the development of machines, materials, instruments, processes, and services. Includes teachers of subjects, such as chemical, civil, electrical, industrial, mechanical, mineral, and petroleum engineering. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research. Excludes "Computer Science Teachers, Postsecondary" (25-1021).

Illustrative Examples: Aeronautics Engineering Teacher; Civil Engineering Teacher; Electrical Engineering Teacher

25-1040 Life Sciences Teachers, Postsecondary

This broad occupation includes the following three detailed occupations:
25-1041 Agricultural Sciences Teachers, Postsecondary
25-1042 Biological Science Teachers, Postsecondary
25-1043 Forestry and Conservation Science Teachers, Postsecondary

25-1041 Agricultural Sciences Teachers, Postsecondary

Teach courses in the agricultural sciences. Includes teachers of agronomy, dairy sciences, fisheries management, horticultural sciences, poultry sciences, range management, and agricultural soil conservation. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Dairy Science Teacher; Farm Management Teacher; Agricultural Soil Conservation Teacher

25-1042 Biological Science Teachers, Postsecondary
Teach courses in biological sciences. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Bacteriology Teacher; Biochemistry Teacher; Genetics Teacher

25-1043 Forestry and Conservation Science Teachers, Postsecondary
Teach courses in environmental and conservation science. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research. Excludes "Agricultural Science Teachers" (25-1041).

Illustrative Examples: Forest Management Teacher; Forest Pathology Teacher

25-1050 Physical Sciences Teachers, Postsecondary

This broad occupation includes the following four detailed occupations:
25-1051 Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
25-1052 Chemistry Teachers, Postsecondary
25-1053 Environmental Science Teachers, Postsecondary
25-1054 Physics Teachers, Postsecondary

25-1051 Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
Teach courses in the physical sciences, except chemistry and physics. Includes both teachers primarily engaged in teaching, and those who do a combination of both teaching and research.

Illustrative Examples: Climatology Teacher; Geology Teacher; Oceanography Teacher

25-1052 Chemistry Teachers, Postsecondary
Teach courses pertaining to the chemical and physical properties and compositional changes of substances. Work may include instruction in the methods of qualitative and quantitative chemical analysis. Includes both teachers primarily engaged in teaching, and those who do a combination of both teaching and research. Excludes "Biological Science Teachers, Postsecondary" (25-1042) who teach biochemistry.

Illustrative Examples: Food Technology Teacher; Pharmacognosy Teacher

25-1053 Environmental Science Teachers, Postsecondary
Teach courses in environmental science. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1054 Physics Teachers, Postsecondary
Teach courses pertaining to the laws of matter and energy. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Aerodynamics Teacher; Ballistics Teacher; Thermodynamics Teacher

25-1060 Social Sciences Teachers, Postsecondary

This broad occupation includes the following eight detailed occupations:
25-1061 Anthropology and Archeology Teachers, Postsecondary
25-1062 Area, Ethnic, and Cultural Studies Teachers, Postsecondary
25-1063 Economics Teachers, Postsecondary
25-1064 Geography Teachers, Postsecondary
25-1065 Political Science Teachers, Postsecondary
25-1066 Psychology Teachers, Postsecondary
25-1067 Sociology Teachers, Postsecondary
25-1069 Social Sciences Teachers, Postsecondary, All Other

25-1061 Anthropology and Archeology Teachers, Postsecondary
Teach courses in anthropology or archeology. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Paleology Teacher

25-1062 Area, Ethnic, and Cultural Studies Teachers, Postsecondary
Teach courses pertaining to the culture and development of an area (e.g., Latin America), an ethnic group, or any other group (e.g., women's studies, urban affairs). Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Ethnology Teacher

25-1063 Economics Teachers, Postsecondary
Teach courses in economics. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Agricultural Economics Teacher; Industrial Economics Teacher

25-1064 Geography Teachers, Postsecondary
Teach courses in geography. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Cartography Teacher

25-1065 Political Science Teachers, Postsecondary
Teach courses in political science, international affairs, and international relations. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Government Teacher; International Relations Teacher; Public Policy Teacher

25-1066 Psychology Teachers, Postsecondary
Teach courses in psychology, such as child, clinical, and developmental psychology, and psychological counseling. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Child Development Teacher; Human Relations Teacher; Applied Psychology Teacher

25-1067 Sociology Teachers, Postsecondary
Teach courses in sociology. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1069 Social Sciences Teachers, Postsecondary, All Other
All postsecondary social sciences teachers not listed separately.

Illustrative Examples: Urban Planning Teacher; Labor Relations Teacher; Survey Research Teacher

25-1070 Health Teachers, Postsecondary

This broad occupation includes the following two detailed occupations:
25-1071 Health Specialties Teachers, Postsecondary
25-1072 Nursing Instructors and Teachers, Postsecondary

25-1071 Health Specialties Teachers, Postsecondary

Teach courses in health specialties, such as veterinary medicine, dentistry, pharmacy, therapy, laboratory technology, and public health. Excludes "Nursing Instructors and Teachers, Postsecondary" (25-1072) and "Biological Science Teachers, Postsecondary" (25-1042) who teach medical science.

Illustrative Examples: Pharmacology Teacher; Dentistry Teacher; Nutrition Teacher

25-1072 Nursing Instructors and Teachers, Postsecondary

Demonstrate and teach patient care in classroom and clinical units to nursing students. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Registered Nursing Instructor; Practical Nursing Instructor; Nurses Aides Instructors

25-1080 Education and Library Science Teachers, Postsecondary

This broad occupation includes the following two detailed occupations:
25-1081 Education Teachers, Postsecondary
25-1082 Library Science Teachers, Postsecondary

25-1081 Education Teachers, Postsecondary

Teach courses pertaining to education, such as counseling, curriculum, guidance, instruction, teacher education, and teaching English as a second language. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1082 Library Science Teachers, Postsecondary

Teach courses in library science. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Example: Teacher of Medical Record Librarians

25-1110 Law, Criminal Justice, and Social Work Teachers, Postsecondary

This broad occupation includes the following three detailed occupations:
25-1111 Criminal Justice and Law Enforcement Teachers, Postsecondary
25-1112 Law Teachers, Postsecondary
25-1113 Social Work Teachers, Postsecondary

25-1111 Criminal Justice and Law Enforcement Teachers, Postsecondary

Teach courses in criminal justice, corrections, and law enforcement administration. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Criminology Teacher; Penology Teacher

25-1112 Law Teachers, Postsecondary

Teach courses in law. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1113 Social Work Teachers, Postsecondary

Teach courses in social work. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1120 Arts, Communications, and Humanities Teachers, Postsecondary

This broad occupation includes the following six detailed occupations:
25-1121 Art, Drama, and Music Teachers, Postsecondary
25-1122 Communications Teachers, Postsecondary
25-1123 English Language and Literature Teachers, Postsecondary
25-1124 Foreign Language and Literature Teachers, Postsecondary
25-1125 History Teachers, Postsecondary
25-1126 Philosophy and Religion Teachers, Postsecondary

25-1121 Art, Drama, and Music Teachers, Postsecondary

Teach courses in drama, music, and the arts including fine and applied art, such as painting and sculpture, or design and crafts. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Photography Teacher; Piano Teacher; Music Director

25-1122 Communications Teachers, Postsecondary
Teach courses in communications, such as organizational communications, public relations, radio/television broadcasting, and journalism. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Journalism Teacher; Public Speaking Teacher

25-1123 English Language and Literature Teachers, Postsecondary
Teach courses in English language and literature, including linguistics and comparative literature. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Classics Teacher; Etymology Teacher; Creative Writing Teacher

25-1124 Foreign Language and Literature Teachers, Postsecondary
Teach courses in foreign (i.e., other than English) languages and literature. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Arabic Teacher; Russian Teacher; Spanish Teacher

25-1125 History Teachers, Postsecondary
Teach courses in human history and historiography. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1126 Philosophy and Religion Teachers, Postsecondary
Teach courses in philosophy, religion, and theology. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Divinity Teacher; Metaphysics Teacher; Theology Teacher

25-1190 Miscellaneous Postsecondary Teachers

This broad occupation includes the following five detailed occupations:
25-1191 Graduate Teaching Assistants
25-1192 Home Economics Teachers, Postsecondary
25-1193 Recreation and Fitness Studies Teachers, Postsecondary
25-1194 Vocational Education Teachers, Postsecondary
25-1199 Postsecondary Teachers, All Other

25-1191 Graduate Teaching Assistants

Assist department chairperson, faculty members, or other professional staff members in college or university by performing teaching or teaching-related duties, such as teaching lower level courses, developing teaching materials, preparing and giving examinations, and grading examinations or papers. Graduate assistants must be enrolled in a graduate school program. Graduate assistants who primarily perform non-teaching duties, such as laboratory research, should be reported in the occupational category related to the work performed.

25-1192 Home Economics Teachers, Postsecondary

Teach courses in child care, family relations, finance, nutrition, and related subjects as pertaining to home management. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Food and Nutrition Teacher; Sewing Teacher

25-1193 Recreation and Fitness Studies Teachers, Postsecondary

Teach courses pertaining to recreation, leisure, and fitness studies, including exercise physiology and facilities management. Includes both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Swimming Teacher; Leisure Studies Instructor

25-1194 Vocational Education Teachers, Postsecondary

Teach or instruct vocational or occupational subjects at the postsecondary level (but at less than the baccalaureate) to students who have graduated or left high school. Includes correspondence school instructors; industrial, commercial and government training instructors; and adult education teachers and instructors who prepare persons to operate industrial machinery and equipment and transportation and communications equipment. Teaching may take place in public

or private schools whose primary business is education or in a school associated with an organization whose primary business is other than education.

Illustrative Examples: Real Estate Instructor; Auto Mechanics Teacher; Barbering Teacher

25-1199 Postsecondary Teachers, All Other
All postsecondary teachers not listed separately.

Illustrative Examples: Interior Design Teacher; Military Science Teacher

25-2000 PRIMARY, SECONDARY, AND SPECIAL EDUCATION SCHOOL TEACHERS

25-2010 Preschool and Kindergarten Teachers

This broad occupation includes the following two detailed occupations:
25-2011 Preschool Teachers, Except Special Education
25-2012 Kindergarten Teachers, Except Special Education

25-2011 Preschool Teachers, Except Special Education
Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification. Excludes "Child Care Workers" (39-9011) and "Special Education Teachers" (25-2041 through 25-2043).

Illustrative Examples: Head Start Teacher; Childhood Development Teacher; Nursery School Teacher

25-2012 Kindergarten Teachers, Except Special Education
Teach elemental natural and social science, personal hygiene, music, art, and literature to children from 4 to 6 years old. Promote physical, mental, and social development. May be required to hold State certification. Excludes "Special Education Teachers" (25-2041 through 25-2043).

25-2020 Elementary and Middle School Teachers

This broad occupation includes the following three detailed occupations:
25-2021 Elementary School Teachers, Except Special Education
25-2022 Middle School Teachers, Except Special and Vocational Education
25-2023 Middle School Vocational Education Teachers

25-2021 Elementary School Teachers, Except Special Education
Teach pupils in public or private schools at the elementary level basic academic, social, and other formative skills. Excludes "Special Education Teachers" (25-2041 through 25-2043).

25-2022 Middle School Teachers, Except Special and Vocational Education
Teach students in public or private schools in one or more subjects at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable State laws and regulations. Excludes "Middle School Vocational Education Teachers" (25-2023) and "Special Education Teachers" (25-2041 through 25-2043).

Illustrative Example: Junior High School Teacher

25-2023 Vocational Education Teachers, Middle School
Teach or instruct vocational or occupational subjects at the middle school level. Excludes "Special Education Teachers" (25-2041 through 25-2043).

25-2030 Secondary School Teachers

This broad occupation includes the following two detailed occupations:
25-2031 Secondary School Teachers, Except Special and Vocational Education
25-2032 Secondary Vocational Education School Teachers

25-2031 Secondary School Teachers, Except Special and Vocational Education
Instruct students in secondary public or private schools in one or more subjects at the secondary level, such as English, mathematics, or social studies. May be designated according to subject matter specialty, such as typing instructors, commercial teachers, or English teachers. Excludes "Vocational Education Secondary School Teachers" (25-2032) and "Special Education Teachers" (25-2041 through 25-2043).

Illustrative Example: High School Teacher

25-2032 Vocational Education Teachers, Secondary School
Teach or instruct vocational or occupational subjects at the secondary school level.

25-2040 Special Education Teachers

This broad occupation includes the following three detailed occupations:
25-2041 Special Education Teachers, Preschool, Kindergarten, and Elementary School
25-2042 Special Education Teachers, Middle School
25-2043 Special Education Teachers, Secondary School

25-2041 Special Education Teachers, Preschool, Kindergarten, and Elementary School
Teach elementary and preschool school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-2042 Special Education Teachers, Middle School
Teach middle school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-2043 Special Education Teachers, Secondary School
Teach secondary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-3000 OTHER TEACHERS AND INSTRUCTORS

25-3010 Adult Literacy, Remedial Education, and GED Teachers and Instructors

This broad occupation is the same as the detailed occupation:
25-3011 Adult Literacy, Remedial Education, and GED Teachers and Instructors

25-3011 Adult Literacy, Remedial Education, and GED Teachers and Instructors
Teach or instruct out-of-school youths and adults in remedial education classes, preparatory classes for the General Educational Development test, literacy, or

English as a Second Language. Teaching may or may not take place in a traditional educational institution.

Illustrative Example: Adult Education Teacher

25-3020 Self-Enrichment Education Teachers

This broad occupation is the same as the detailed occupation:
25-3021 Self-Enrichment Education Teachers

25-3021 Self-Enrichment Education Teachers

Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, nonvocational, and nonacademic subjects. Teaching may or may not take place in a traditional educational institution.

Illustrative Examples: Art Teacher; Flying Teacher; Citizenship Teacher

25-3090 Miscellaneous Teachers and Instructors

This broad occupation is the same as the detailed occupation:
25-3099 Teachers and Instructors, All Other

25-3099 Teachers and Instructors, All Other

All teachers and instructors not listed separately.

Illustrative Examples: Consumer Education Specialist; Lecturer; Private Tutor

25-4000 LIBRARIANS, CURATORS, AND ARCHIVISTS

25-4010 Archivists, Curators, and Museum Technicians

This broad occupation includes the following three detailed occupations:
25-4011 Archivists
25-4012 Curators
25-4013 Museum Technicians and Conservators

25-4011 Archivists
Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials.

Illustrative Example: Docent Coordinator

25-4012 Curators
Administer affairs of museum and conduct research programs. Direct instructional, research, and public service activities of institution.

Illustrative Examples: Art Gallery Director; Museum Director

25-4013 Museum Technicians and Conservators
Prepare specimens, such as fossils, skeletal parts, lace, and textiles, for museum collection and exhibits. May restore documents or install, arrange, and exhibit materials.

Illustrative Example: Museum Registrar

25-4020 Librarians
This broad occupation is the same as the detailed occupation:
25-4021 Librarians

25-4021 Librarians
Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials; and furnishing reference, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information.

Illustrative Examples: School Library Media Specialist; Circulation Manager

25-4030 Library Technicians
This broad occupation is the same as the detailed occupation:
25-4031 Library Technicians

25-4031 Library Technicians
Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelve books; remove or repair damaged books; register patrons; check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files. Includes bookmobile drivers who operate bookmobiles or light trucks that pull trailers to specific locations on a predetermined schedule and assist with providing services in mobile libraries.

Illustrative Examples: Assistant Librarian; Bookmobile Driver

25-9000 OTHER EDUCATION, TRAINING, AND LIBRARY OCCUPATIONS

25-9010 Audio-Visual Collections Specialists
This broad occupation is the same as the detailed occupation:
25-9011 Audio-visual Collections Specialists

25-9011 Audio-Visual Collections Specialists
Prepare, plan, and operate audio-visual teaching aids for use in education. May record, catalogue, and file audio-visual materials.

25-9020 Farm and Home Management Advisors
This broad occupation is the same as the detailed occupation:
25-9021 Farm and Home Management Advisors

25-9021 Farm and Home Management Advisors
Advise, instruct, and assist individuals and families engaged in agriculture, agricultural-related processes, or home economics activities. Demonstrate procedures and apply research findings to solve problems; instruct and train in product development, sales, and the utilization of machinery and equipment to promote general welfare. Includes county agricultural agents, feed and farm management advisers, home economists, and extension service advisors.

Illustrative Examples: Agricultural Extension Agent; Feed Adviser; Home Economic Extension Worker

25-9030 Instructional Coordinators

This broad occupation is the same as the detailed occupation:
25-9031 Instructional Coordinators

25-9031 Instructional Coordinators

Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

Illustrative Examples: Curriculum Specialist; Director of Instructional Materials; Educational Consultant

25-9040 Teacher Assistants

This broad occupation is the same as the detailed occupation:
25-9041 Teacher Assistants

25-9041 Teacher Assistants

Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services.

Illustrative Examples: Examination Proctor; Paper Grader; Paraprofessional Teacher Aides

25-9090 Miscellaneous Education, Training, and Library Workers

This broad occupation is the same as the detailed occupation:
25-9099 Education, Training, and Library Workers, All Other

25-9099 Education, Training, and Library Workers, All Other

All education, training, and library workers not listed separately.

27-0000 ARTS, DESIGN, ENTERTAINMENT, SPORTS, AND MEDIA OCCUPATIONS

27-1000 ART AND DESIGN WORKERS

27-1010 Artists and Related Workers

This broad occupation includes the following five detailed occupations:
27-1011 Art Directors
27-1012 Craft Artists
27-1013 Fine Artists, Including Painters, Sculptors, and Illustrators
27-1014 Multi-Media Artists and Animators
27-1019 Artists and Related Workers, All Other

27-1011 Art Directors
Formulate design concepts and presentation approaches, and direct workers engaged in art work, layout design, and copy writing for visual communications media, such as magazines, books, newspapers, and packaging.

27-1012 Craft Artists
Create or reproduce hand-made objects for sale and exhibition using a variety of techniques, such as welding, weaving, pottery, and needlecraft.

Illustrative Examples: Architectural Modeler; Furniture Reproducer; Ivory Carver

27-1013 Fine Artists, Including Painters, Sculptors, and Illustrators
Create original artwork using any of a wide variety of mediums and techniques, such as painting and sculpture.

Illustrative Examples: Art Restorer; Cartoonist; Statue Maker

27-1014 Multi-Media Artists and Animators
Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.

Illustrative Examples: Computer Artist; Computer Graphics Illustrator; Special Effects Specialist

27-1019 Artists and Related Workers, All Other
All artists and related workers not listed separately.

Illustrative Examples: Art Appraiser; Calligrapher; Inker and Opaquer

27-1020 Designers

This broad occupation includes the following eight detailed occupations:
27-1021 Commercial and Industrial Designers
27-1022 Fashion Designers
27-1023 Floral Designers
27-1024 Graphic Designers
27-1025 Interior Designers
27-1026 Merchandise Displayers and Window Trimmers
27-1027 Set and Exhibit Designers
27-1029 Designers, All Other

27-1021 Commercial and Industrial Designers
Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.

Illustrative Examples: Body Stylist; Color Consultant; Jewelry Designer

27-1022 Fashion Designers
Design clothing and accessories. Create original garments or design garments that follow well established fashion trends. May develop the line of color and kinds of materials.

Illustrative Examples: Costume Designer; Custom Furrier; Stylist

27-1023 Floral Designers
Design, cut, and arrange live, dried, or artificial flowers and foliage.

Illustrative Examples: Corsage Maker; Florist; Flower Arranger

27-1024 Graphic Designers
Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.

Illustrative Examples: Catalogue Illustrator; Graphic Artist; Layout Artist

27-1025 Interior Designers
Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design. Excludes "Merchandise Displayers and Window Trimmers" (27-1026).

Illustrative Examples: Decorator; Furniture Arranger; Home Lighting Adviser

27-1026 Merchandise Displayers and Window Trimmers
Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.

Illustrative Examples: Mannequin Decorator; Display Artist; Model Dresser

27-1027 Set and Exhibit Designers
Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

Illustrative Examples: Set Decorator; Stage Scenery Designer

27-1029 Designers, All Other
All designers not listed separately.

Illustrative Examples: Copyist; Frame Stylist

27-2000 ENTERTAINERS AND PERFORMERS, SPORTS AND RELATED WORKERS

27-2010 Actors, Producers, and Directors
This broad occupation includes the following two detailed occupations:
27-2011 Actors
27-2012 Producers and Directors

27-2011 Actors
Play parts in stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Interpret serious or comic role by

speech, gesture, and body movement to entertain or inform audience. May dance and sing.

Illustrative Examples: Elocutionist; Extra; Dramatic Reader

27-2012 Producers and Directors
Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of guests, set design, sound, special effects, and choreography.

Illustrative Examples: Independent Film Maker; Stage Manager; Program Arranger

27-2020 Athletes, Coaches, Umpires, and Related Workers

This broad occupation includes the following three detailed occupations:
27-2021 Athletes and Sports Competitors
27-2022 Coaches and Scouts
27-2023 Umpires, Referees, and Other Sports Officials

27-2021 Athletes and Sports Competitors
Compete in athletic events.

Illustrative Examples: Ball Player; Jockey; Racing Car Driver

27-2022 Coaches and Scouts
Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. May evaluate athletes' strengths and weaknesses as possible recruits or to improve the athletes' technique to prepare them for competition. Those required to hold teaching degrees should be reported in the appropriate teaching category. Excludes "Athletic Trainers" (29-9091).

Illustrative Examples: Boxing Trainer; Horse Trainer; Baseball Club Manager

27-2023 Umpires, Referees, and Other Sports Officials
Officiate at competitive athletic or sporting events. Detect infractions of rules and decide penalties according to established regulations. Includes all sporting officials, referees, and competition judges.

Illustrative Examples: Handicapper; Paddock Judge; Athletic Events Scorer

27-2030 Dancers and Choreographers

This broad occupation includes the following two detailed occupations:
27-2031 Dancers
27-2032 Choreographers

27-2031 Dancers

Perform dances. May also sing or act.

27-2032 Choreographers

Create and teach dance. May direct and stage presentations.

Illustrative Example: Dance Director

27-2040 Musicians, Singers, and Related Workers

This broad occupation includes the following two detailed occupations:
27-2041 Music Directors and Composers
27-2042 Musicians and Singers

27-2041 Music Directors and Composers

Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Includes arrangers, composers, choral directors, and orchestrators.

Illustrative Examples: Choirmaster; Orchestra Conductor

27-2042 Musicians and Singers

Play one or more musical instruments or entertain by singing songs in recital, in accompaniment, or as a member of an orchestra, band, or other musical group. Musical performers may entertain on-stage, radio, TV, film, video, or record in studios. Excludes "Dancers" (27-2031).

Illustrative Examples: Cantor; Church Organist; Instrumentalist

27-2090 Miscellaneous Entertainers and Performers, Sports and Related Workers

This broad occupation is the same as the detailed occupation:
27-2099 Entertainers and Performers, Sports and Related Workers, All Other

27-2099 Entertainers and Performers, Sports and Related Workers, All Other
All entertainers and performers, sports and related workers not listed separately.

Illustrative Examples: Circus Performer; Comedian; Magician

27-3000 MEDIA AND COMMUNICATION WORKERS

27-3010 Announcers

This broad occupation includes the following two detailed occupations:
27-3011 Radio and Television Announcers
27-3012 Public Address System and Other Announcers

27-3011 Radio and Television Announcers
Talk on radio or television. May interview guests, act as master of ceremonies, read news flashes, identify station by giving call letters, or announce song title and artist.

Illustrative Examples: Broadcaster; Radio Disk Jockey

27-3012 Public Address System and Other Announcers
Make announcements over loud speaker at sporting or other public events. May act as master of ceremonies or disc jockey at weddings, parties, clubs, or other gathering places.

Illustrative Examples: Ringmaster; Train Caller

27-3020 News Analysts, Reporters and Correspondents

This broad occupation includes the following two detailed occupations:
27-3021 Broadcast News Analysts
27-3022 Reporters and Correspondents

27-3021 Broadcast News Analysts
Analyze, interpret, and broadcast news received from various sources.

Illustrative Examples: News Anchor; Commentator; Newscaster

27-3022 Reporters and Correspondents
Collect and analyze facts about newsworthy events by interview, investigation, or observation. Report and write stories for newspaper, news magazine, radio, or television. Excludes "Broadcast News Analysts" (27-3021).

Illustrative Examples: Columnist; Critic; Foreign Correspondent

27-3030 Public Relations Specialists

This broad occupation is the same as the detailed occupation:
27-3031 Public Relations Specialists

27-3031 Public Relations Specialists
Engage in promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. May prepare and arrange displays, and make speeches.

Illustrative Examples: Lobbyist; Press Secretary; Publicist

27-3040 Writers and Editors

This broad occupation includes the following three detailed occupations:
27-3041 Editors
27-3042 Technical Writers
27-3043 Writers and Authors

27-3041 Editors
Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication. Includes technical editors.

Illustrative Examples: Copy Editor; Censor; Reviewer

27-3042 Technical Writers
Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.

Illustrative Examples: Documentation Writer; Assembly Instructions Writer; Specifications Writer

27-3043 Writers and Authors
Originate and prepare written material, such as scripts, stories, advertisements,

and other material. Excludes "Public Relations Specialists" (27-3031) and "Technical Writers" (27-3042).

Illustrative Examples: Crossword Puzzle Maker; Copy Writer; Playwright

27-3090 Miscellaneous Media and Communication Workers

This broad occupation includes the following two detailed occupations:
27-3091 Interpreters and Translators
27-3099 Media and Communication Workers, All Other

27-3091 Interpreters and Translators
Translate or interpret written, oral, or sign language text into another language for others.

Illustrative Examples: Braille Translator; Deaf Interpreter; Language Translator

27-3099 Media and Communication Workers, All Other
All media and communication workers not listed separately.

Illustrative Examples: Graphologist; Stage Technician

27-4000 MEDIA AND COMMUNICATION EQUIPMENT WORKERS

27-4010 Broadcast and Sound Engineering Technicians and Radio Operators

This broad occupation includes the following four detailed occupations:
27-4011 Audio and Video Equipment Technicians
27-4012 Broadcast Technicians
27-4013 Radio Operators
27-4014 Sound Engineering Technicians

27-4011 Audio and Video Equipment Technicians
Set up or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated

spotlights and other custom lighting systems. Excludes "Sound Engineering Technicians" (27-4014).

Illustrative Examples: Video Control Operator; Audio Visual Production Specialist

27-4012 Broadcast Technicians
Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate radio transmitter to broadcast radio and television programs.

Illustrative Examples: Control Room Technician; Audio Engineer

27-4013 Radio Operators
Receive and transmit communications using radiotelegraph or radiotelephone equipment in accordance with government regulations. May repair equipment.

Illustrative Example: Radio Officer

27-4014 Sound Engineering Technicians
Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.

Illustrative Examples: Film Recordist; Sound Editor; Sound Effects Person

27-4020 PHOTOGRAPHERS
This broad occupation is the same as the detailed occupation:
27-4021 Photographers

27-4021 Photographers
Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints. Includes scientific photographers, aerial photographers, and photojournalists.

Illustrative Example: Camera Operator

27-4030 Television, Video, and Motion Picture Camera Operators and Editors

This broad occupation includes the following two detailed occupations:
27-4031 Camera Operators, Television, Video, and Motion Picture
27-4032 Film and Video Editors

27-4031 Camera Operators, Television, Video, and Motion Picture
Operate television, video, or motion picture camera to photograph images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

Illustrative Example: Cinematographer

27-4032 Film and Video Editors
Edit motion picture soundtracks, film, and video.

Illustrative Examples: Cue Selector; Video Tape Duplicator

27-4090 Miscellaneous Media and Communication Equipment Workers

This broad occupation is the same as the detailed occupation:
27-4099 Media and Communication Equipment Workers, All Other

27-4099 Media and Communication Equipment Workers, All Other
All media and communication equipment workers not listed separately.

Illustrative Examples: Radar Operator; Light Technician

29-0000 HEALTHCARE PRACTITIONER AND TECHNICAL OCCUPATIONS

29-1000 HEALTH DIAGNOSING AND TREATING PRACTITIONERS

29-1010 CHIROPRACTORS

This broad occupation is the same as the detailed occupation:
29-1011 Chiropractors

29-1011 Chiropractors

Adjust spinal column and other articulations of the body to correct abnormalities of the human body believed to be caused by interference with the nervous system. Examine patient to determine nature and extent of disorder. Manipulate spine or other involved area. May utilize supplementary measures, such as exercise, rest, water, light, heat, and nutritional therapy.

29-1020 DENTISTS

This broad occupation includes the following five detailed occupations:
29-1021 Dentists, General
29-1022 Oral and Maxillofacial Surgeons
29-1023 Orthodontists
29-1024 Prosthodontists
29-1029 Dentists, All Other Specialists

29-1021 Dentists, General

Diagnose and treat diseases, injuries, and malformations of teeth and gums and related oral structures. May treat diseases of nerve, pulp, and other dental tissues affecting vitality of teeth. Excludes "Prosthodontists" (29-1024), "Orthodontists" (29-1023), "Oral and Maxillofacial Surgeons" (29-1022) and "Dentists, all other specialists" (29-1029).

29-1022 Oral and Maxillofacial Surgeons

Perform surgery on mouth, jaws, and related head and neck structure to execute difficult and multiple extractions of teeth, to remove tumors and other abnormal growths, to correct abnormal jaw relations by mandibular or maxillary revision, to prepare mouth for insertion of dental prosthesis, or to treat fractured jaws.

Illustrative Example: Dental Surgeon

29-1023 Orthodontists
Examine, diagnose, and treat dental malocclusions and oral cavity anomalies. Design and fabricate appliances to realign teeth and jaws to produce and maintain normal function and to improve appearance.

29-1024 Prosthodontists
Construct oral prostheses to replace missing teeth and other oral structures to correct natural and acquired deformation of mouth and jaws, to restore and maintain oral function, such as chewing and speaking, and to improve appearance.

29-1029 Dentists, All Other Specialists
All dentists not listed separately.

Illustrative Examples: Endodontist; Periodontist; Oral Pathologist

29-1030 Dietitians and Nutritionists

This broad occupation is the same as the detailed occupation:
29-1031 Dietitians and Nutritionists

29-1031 Dietitians and Nutritionists
Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research.

Illustrative Examples: Public Health Dietitian; Nutrition Director; Research Dietitian

29-1040 Optometrists

This broad occupation is the same as the detailed occupation:
29-1041 Optometrists

29-1041 Optometrists
Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment. May prescribe therapeutic drugs to treat specific eye conditions.

Illustrative Example: Doctor of Optometry

29-1050 Pharmacists

This broad occupation is the same as the detailed occupation:
29-1051 Pharmacists

29-1051 Pharmacists

Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

Illustrative Examples: Apothecary; Druggist; Industrial Pharmacist

29-1060 Physicians and Surgeons

This broad occupation includes the following eight detailed occupations:
29-1061 Anesthesiologists
29-1062 Family and General Practitioners
29-1063 Internists, General
29-1064 Obstetricians and Gynecologists
29-1065 Pediatricians, General
29-1066 Psychiatrists
29-1067 Surgeons
29-1069 Physicians and Surgeons, All Other

29-1061 Anesthesiologists

Administer anesthetics during surgery or other medical procedures.

29-1062 Family and General Practitioners

Diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population.

29-1063 Internists, General

Diagnose and provide non-surgical treatment of diseases and injuries of internal organ systems. Provide care mainly for adults who have a wide range of problems associated with the internal organs. Includes subspecialists, such as cardiologists and gastroenterologists, with "All Other Physicians" (29-1069).

29-1064 Obstetricians and Gynecologists

Diagnose, treat, and help prevent diseases of women, especially those affecting the reproductive system and the process of childbirth.

Illustrative Example: OB/Gyn

29-1065 Pediatricians, General
Diagnose, treat, and help prevent children's diseases and injuries.

29-1066 Psychiatrists
Diagnose, treat, and help prevent disorders of the mind.

Illustrative Examples: Psychoanalyst; Neuropsychiatrist

29-1067 Surgeons
Treat diseases, injuries, and deformities by invasive methods, such as manual manipulation or by using instruments and appliances.

Illustrative Examples: Orthopedic Surgeon; Cardiovascular Surgeon; Plastic Surgeon

29-1069 Physicians and Surgeons, All Other
All physicians and surgeons not listed separately.

Illustrative Examples: Cardiologist; Dermatologist; Ophthalmologist

29-1070 Physician Assistants
This broad occupation is the same as the detailed occupation:
29-1071 Physician Assistants

29-1071 Physician Assistants
Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment, and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants. Excludes "Emergency Medical Technicians and Paramedics" (29-2041), "Medical Assistants" (31-9092), and "Registered Nurses" (29-1111).

Illustrative Example: Anesthesiologist Assistant

29-1080 Podiatrists
This broad occupation is the same as the detailed occupation:
29-1081 Podiatrists

29-1081 Podiatrists
Diagnose and treat diseases and deformities of the human foot.

Illustrative Examples: Podiatric Surgeon; Foot Orthopedist; Pododermatologist

29-1110 Registered Nurses

This broad occupation is the same as the detailed occupation:
29-1111 Registered Nurses

29-1111 Registered Nurses
Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Includes advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles.

Illustrative Examples: Nursing Supervisor; Nurse Midwife; Nurse Practitioner

29-1120 Therapists

This broad occupation includes the following eight detailed occupations:
29-1121 Audiologists
29-1122 Occupational Therapists
29-1123 Physical Therapists
29-1124 Radiation Therapists
29-1125 Recreational Therapists
29-1126 Respiratory Therapists
29-1127 Speech-Language Pathologists
29-1129 Therapists, All Other

29-1121 Audiologists
Assess and treat persons with hearing and related disorders. May fit hearing aids and provide auditory training. May perform research related to hearing problems.

Illustrative Example: Hearing Therapist

29-1122 Occupational Therapists
Assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled persons.

29-1123 Physical Therapists
Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.

Illustrative Examples: Physiotherapist; Pulmonary Physical Therapist

29-1124 Radiation Therapists
Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization.

Illustrative Examples: Dosimetrist; Radiation Therapy Technologist

29-1125 Recreational Therapists
Plan, direct, or coordinate medically-approved recreation programs for patients in hospitals, nursing homes, or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts. May assess a patient condition and recommend appropriate recreational activity.

Illustrative Example: Therapeutic Recreation Specialist

29-1126 Respiratory Therapists
Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

Illustrative Examples: Inhalation Therapist; Respiratory Care Practitioner; Oxygen Therapist

29-1127 Speech-Language Pathologists
Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.

Illustrative Examples: Oral Therapist; Speech Clinician; Speech Therapist

29-1129 Therapists, All Other
All therapists not listed separately.

Illustrative Examples: Corrective and Manual Arts Therapist; Hydrotherapist; Music Therapist

29-1130 Veterinarians

This broad occupation is the same as the detailed occupation:
29-1131 Veterinarians

29-1131 Veterinarians
Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function, such as research and development, consultation, administration, technical writing, sale or production of commercial products, or rendering of technical services to commercial firms or other organizations. Includes veterinarians who inspect livestock.

Illustrative Examples: Animal Pathologist; Animal Surgeon; Veterinary Bacteriologist

29-1190 Miscellaneous Health Diagnosing and Treating Practitioners

This broad occupation is the same as the detailed occupation:
29-1199 Health Diagnosing and Treating Practitioners, All Other

29-1199 Health Diagnosing and Treating Practitioners, All Other
All health diagnosing and treating practitioners not listed separately.

Illustrative Examples: Acupuncturist; Homeopathic Doctor; Hypnotherapist

29-2000 HEALTH TECHNOLOGISTS AND TECHNICIANS

29-2010 Clinical Laboratory Technologists and Technicians

This broad occupation includes the following two detailed occupations:
29-2011 Medical and Clinical Laboratory Technologists
29-2012 Medical and Clinical Laboratory Technicians

29-2011 Medical and Clinical Laboratory Technologists

Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.

Illustrative Examples: Blood Bank Technologist; Cytotechnologist; Immunohematologist

29-2012 Medical and Clinical Laboratory Technicians

Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.

Illustrative Examples: Blood Bank Technician; Cytotechnician; Serology Technician

29-2020 Dental Hygienists

This broad occupation is the same as the detailed occupation:
29-2021 Dental Hygienists

29-2021 Dental Hygienists

Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants.

Illustrative Example: Oral Hygienist

29-2030 Diagnostic Related Technologists and Technicians

This broad occupation includes the following four detailed occupations:
29-2031 Cardiovascular Technologists and Technicians
29-2032 Diagnostic Medical Sonographers
29-2033 Nuclear Medicine Technologists
29-2034 Radiologic Technologists and Technicians

29-2031 Cardiovascular Technologists and Technicians
Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary-functions, lung capacity, and similar tests. Includes vascular technologists.

Illustrative Examples: Cardiographer; Cardiopulmonary Technologist; E.K.G. Technician

29-2032 Diagnostic Medical Sonographers
Produce ultrasonic recordings of internal organs for use by physicians.

Illustrative Examples: Ultrasonic Tester; Ultrasound Technologist

29-2033 Nuclear Medicine Technologists
Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies utilizing a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques.

Illustrative Example: Radioisotope Technician

29-2034 Radiologic Technologists and Technicians
Take X-rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other modalities, such as computed tomography and magnetic resonance. Includes workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen.

Illustrative Examples: CAT Scan Operator; Skiagrapher; X-Ray Technician

29-2040 Emergency Medical Technicians and Paramedics
This broad occupation is the same as the detailed occupation:
29-2041 Emergency Medical Technicians and Paramedics

29-2041 Emergency Medical Technicians and Paramedics
Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.

Illustrative Example: E.M.T.

29-2050 Health Diagnosing and Treating Practitioner Support Technicians

This broad occupation includes the following six detailed occupations:
29-2051 Dietetic Technicians
29-2052 Pharmacy Technicians
29-2053 Psychiatric Technicians
29-2054 Respiratory Therapy Technicians
29-2055 Surgical Technologists
29-2056 Veterinary Technologists and Technicians

29-2051 Dietetic Technicians

Assist dietitians in the provision of food service and nutritional programs. Under the supervision of dietitians, may plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals.

29-2052 Pharmacy Technicians

Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications.

29-2053 Psychiatric Technicians

Care for mentally impaired or emotionally disturbed individuals, following physician instructions and hospital procedures. Monitor patients' physical and emotional well-being and report to medical staff. May participate in rehabilitation and treatment programs, help with personal hygiene, and administer oral medications and hypodermic injections.

Illustrative Example: Mental Health Technician

29-2054 Respiratory Therapy Technicians

Provide specific, well defined respiratory care procedures under the direction of respiratory therapists and physicians.

Illustrative Example: Oxygen Therapy Technician

29-2055 Surgical Technologists

Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and

other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments.

Illustrative Examples: Operating Room Technician; Scrub Technician; Surgical Orderly

29-2056 Veterinary Technologists and Technicians
Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts. Clean and sterilize instruments and materials and maintain equipment and machines.

Illustrative Examples: Animal Technician; Veterinary X-ray Operator

29-2060 Licensed Practical and Licensed Vocational Nurses

This broad occupation is the same as the detailed occupation:
29-2061 Licensed Practical and Licensed Vocational Nurses

29-2061 Licensed Practical and Licensed Vocational Nurses
Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

Illustrative Example: Licensed Attendant

29-2070 Medical Records and Health Information Technicians

This broad occupation is the same as the detailed occupation:
29-2071 Medical Records and Health Information Technicians

29-2071 Medical Records and Health Information Technicians
Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the heath care system. Process, maintain, compile, and report patient information for health requirements and standards.

Illustrative Examples: Disability Rater; Medical Records Specialist; Medical Library Historian

29-2080 Opticians, Dispensing

This broad occupation is the same as the detailed occupation:
29-2081 Opticians, Dispensing

29-2081 Opticians, Dispensing

Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Includes contact lens opticians.

Illustrative Examples: Contact Lens Fitter; Eyeglass Fitter

29-2090 Miscellaneous Health Technologists and Technicians

This broad occupation includes the following two detailed occupations:
29-2091 Orthotists and Prosthetists
29-2099 Health Technologists and Technicians, All Other

29-2091 Orthotists and Prosthetists

Assist patients with disabling conditions of limbs and spine or with partial or total absence of limb by fitting and preparing orthopedic braces or prostheses.

Illustrative Examples: Artificial Limb Fitter; Orthopedic Mechanic

29-2099 Health Technologists and Technicians, All Other

All health technologists and technicians not listed separately.

Illustrative Examples: Dialysis Technician; Encephalographer; Hearing Aid Specialist

29-9000 OTHER HEALTHCARE PRACTITIONER AND TECHNICAL OCCUPATIONS

29-9010 Occupational Health and Safety Specialists and Technicians

This broad occupation includes the following two detailed occupations:
29-9011 Occupational Health and Safety Specialists
29-9012 Occupational Health and Safety Technicians

29-9011 Occupational Health and Safety Specialists

Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. Includes environmental protection officers.

Illustrative Examples: Health Sanitarian; Industrial Hygienist; Health Inspector

29-9012 Occupational Health and Safety Technicians

Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.

Illustrative Example: Mine Examiner

29-9090 Miscellaneous Healthcare Practitioner and Technical Workers

This broad occupation includes the following two detailed occupations:
29-9091 Athletic Trainers
29-9099 Healthcare Practitioner and Technical Workers, All Other

29-9091 Athletic Trainers

Evaluate, advise, and treat athletes to assist recovery from injury, avoid injury, or maintain peak physical fitness.

29-9099 Healthcare Practitioner and Technical Workers, All Other

All healthcare practitioner and technical workers not listed separately.

31-0000 HEALTHCARE SUPPORT OCCUPATIONS

31-1000 NURSING, PSYCHIATRIC, AND HOME HEALTH AIDES

31-1010 Nursing, Psychiatric, and Home Health Aides

This broad occupation includes the following three detailed occupations:
31-1011 Home Health Aides
31-1012 Nursing Aides, Orderlies, and Attendants
31-1013 Psychiatric Aides

31-1011 Home Health Aides
Provide routine, personal healthcare, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.

Illustrative Example: Home Attendant

31-1012 Nursing Aides, Orderlies, and Attendants
Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens. Excludes "Home Health Aides" (31-1011) and "Psychiatric Aides" (31-1013).

Illustrative Examples: Certified Nursing Assistant; Hospital Aide; Infirmary Attendant

31-1013 Psychiatric Aides
Assist mentally impaired or emotionally disturbed patients, working under direction of nursing and medical staff.

Illustrative Examples: Charge Attendant; Psychiatric Orderly

31-2000 OCCUPATIONAL AND PHYSICAL THERAPIST ASSISTANTS AND AIDES

31-2010 Occupational Therapist Assistants and Aides

This broad occupation includes the following two detailed occupations:
31-2011 Occupational Therapist Assistants
31-2012 Occupational Therapist Aides

31-2011 Occupational Therapist Assistants
Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with State laws, assist in development of treatment plans, carry out routine functions, direct activity programs, and document the progress of treatments. Generally requires formal training.

Illustrative Example: Occupational Therapy Technician

31-2012 Occupational Therapist Aides
Under close supervision of an occupational therapist or occupational therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing patient and treatment room.

31-2020 Physical Therapist Assistants and Aides

This broad occupation includes the following two detailed occupations:
31-2021 Physical Therapist Assistants
31-2022 Physical Therapist Aides

31-2021 Physical Therapist Assistants
Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with State laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training.

Illustrative Example: Corrective Therapy Assistant

31-2022 Physical Therapist Aides
Under close supervision of a physical therapist or physical therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing the patient and the treatment area.

Illustrative Example: Physiotherapy Aide

31-9000 OTHER HEALTHCARE SUPPORT OCCUPATIONS

31-9010 Massage Therapists

This broad occupation is the same as the detailed occupation:
31-9011 Massage Therapists

31-9011 Massage Therapists
Massage customers for hygienic or remedial purposes.

Illustrative Examples: Masseuse; Masseur; Rubber

31-9090 Miscellaneous Healthcare Support Occupations

This broad occupation includes the following seven detailed occupations:
31-9091 Dental Assistants
31-9092 Medical Assistants
31-9093 Medical Equipment Preparers
31-9094 Medical Transcriptionists
31-9095 Pharmacy Aides
31-9096 Veterinary Assistants and Laboratory Animal Caretakers
31-9099 Healthcare Support Workers, All Other

31-9091 Dental Assistants
Assist dentist, set up patient and equipment, and keep records.

31-9092 Medical Assistants
Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Excludes "Physician Assistants" (29-1071).

Illustrative Examples: Morgue Attendant; Ophthalmic Aide; Physicians Aide

31-9093 Medical Equipment Preparers
Prepare, sterilize, install, or clean laboratory or healthcare equipment. May perform routine laboratory tasks and operate or inspect equipment.

Illustrative Examples: Bandage Maker; Hot Packer; Sterilizer

31-9094 Medical Transcriptionists
Use transcribing machines with headset and foot pedal to listen to recordings by physicians and other healthcare professionals dictating a variety of medical reports, such as emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Transcribe dictated reports and translate

medical jargon and abbreviations into their expanded forms. Edit as necessary and return reports in either printed or electronic form to the dictator for review and signature, or correction.

Illustrative Example: Medical Stenographer

31-9095 Pharmacy Aides
Record drugs delivered to the pharmacy, store incoming merchandise, and inform the supervisor of stock needs. May operate cash register and accept prescriptions for filling.

Illustrative Examples: Dispensary Attendant; Prescription Clerk

31-9096 Veterinary Assistants and Laboratory Animal Caretakers
Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine post-operative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists. Excludes "Nonfarm Animal Caretakers" (39-2021).

31-9099 Healthcare Support Workers, All Other
All healthcare support workers not listed separately.

Illustrative Examples: Phlebotomist; Reducing Salon Attendant

33-0000 PROTECTIVE SERVICE OCCUPATIONS

33-1000 FIRST-LINE SUPERVISORS/MANAGERS, PROTECTIVE SERVICE WORKERS

33-1010 First-Line Supervisors/Managers, Law Enforcement Workers

This broad occupation includes the following two detailed occupations:
33-1011 First-Line Supervisors/Managers of Correctional Officers
33-1012 First-Line Supervisors/Managers of Police and Detectives

33-1011 First-Line Supervisors/Managers of Correctional Officers
Supervise and coordinate activities of correctional officers and jailers.

Illustrative Examples: Prison Guard Supervisor; Prison Warden

33-1012 First-Line Supervisors/Managers of Police and Detectives
Supervise and coordinate activities of members of police force.

Illustrative Examples: Chief of Police; Precinct Captain

33-1020 First-Line Supervisors/Managers, Fire Fighting and Prevention Workers

This broad occupation is the same as the detailed occupation:
33-1021 First-line Supervisors/Managers, Fire Fighting and Prevention Workers

33-1021 First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
Supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.

Illustrative Examples: Fire Captain; Fire Chief; Fire Marshal

33-1090 Miscellaneous First-Line Supervisors/Managers, Protective Service Workers

This broad occupation is the same as the detailed occupation:
33-1099 Supervisors, Protective Service Workers, All Other

33-1099 First-Line Supervisors/Managers, Protective Service Workers, All Other
All protective service supervisors not listed separately above.

Illustrative Examples: Security Director; Supervisor Animal Cruelty Investigation; Supervisor Plant Protection

33-2000 FIRE FIGHTING AND PREVENTION WORKERS

33-2010 Fire Fighters
This broad occupation is the same as the detailed occupation:
33-2011 Fire Fighters

33-2011 Fire Fighters
Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster management.

Illustrative Examples: Explosive Ordnance Disposal Technician; Fireboat Operator; Smoke Jumper

33-2020 Fire Inspectors
This broad occupation includes the following two detailed occupations:
33-2021 Fire Inspectors and Investigators
33-2022 Forest Fire Inspectors and Prevention Specialists

33-2021 Fire Inspectors and Investigators
Inspect buildings to detect fire hazards and enforce local ordinances and State laws. Investigate and gather facts to determine cause of fires and explosions.

Illustrative Example: Arson Investigator

33-2022 Forest Fire Inspectors and Prevention Specialists
Enforce fire regulations and inspect for forest fire hazards. Report forest fires and weather conditions.

Illustrative Examples: Forest Fire Control Officer; District Ranger; Fire Ranger

33-3000 LAW ENFORCEMENT WORKERS

33-3010 Bailiffs, Correctional Officers, and Jailers

This broad occupation includes the following two detailed occupations:
33-3011 Bailiffs
33-3012 Correctional Officers and Jailers

33-3011 Bailiffs

Maintain order in courts of law.

Illustrative Examples: Court Officer; Sergeant at Arms

33-3012 Correctional Officers and Jailers

Guard inmates in penal or rehabilitative institution in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point. Includes deputy sheriffs and police who spend the majority of their time guarding prisoners in correctional institutions.

Illustrative Examples: Convict Guard; Custodial Officer; Prison Guard

33-3020 Detectives and Criminal Investigators

This broad occupation is the same as the detailed occupation:
33-3021 Detectives and Criminal Investigators

33-3021 Detectives and Criminal Investigators

Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes. Excludes "Private Detectives and Investigators" (33-9021).

Illustrative Examples: Police Inspector; Deputy United States Marshal; Narcotics Agent

33-3030 Fish and Game Wardens

This broad occupation is the same as the detailed occupation:
33-3031 Fish and Game Wardens

33-3031 Fish and Game Wardens
Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.

Illustrative Examples: State Game Protector; Wildlife Control Agent; Wildlife Officer

33-3040 Parking Enforcement Workers

This broad occupation is the same as the detailed occupation:
33-3041 Parking Enforcement Workers

33-3041 Parking Enforcement Workers
Patrol assigned area, such as public parking lot or section of city to issue tickets to overtime parking violators and illegally parked vehicles.

Illustrative Examples: Parking Enforcement Officer; Parking Meter Checker

33-3050 Police Officers

This broad occupation includes the following two detailed occupations:
33-3051 Police and Sheriff's Patrol Officers
33-3052 Transit and Railroad Police

33-3051 Police and Sheriff's Patrol Officers
Maintain order, enforce laws and ordinances, and protect life and property in an assigned patrol district. Perform combination of following duties: patrol a specific area on foot or in a vehicle; direct traffic; issue traffic summonses; investigate accidents; apprehend and arrest suspects, or serve legal processes of courts.

Illustrative Examples: Border Guard; Campus Police; City Constable

33-3052 Transit and Railroad Police
Protect and police railroad and transit property, employees, or passengers.

Illustrative Examples: Railroad Detective; Track Patrol

33-9000 OTHER PROTECTIVE SERVICE WORKERS

33-9010 Animal Control Workers

This broad occupation is the same as the detailed occupation:
33-9011 Animal Control Workers

33-9011 Animal Control Workers

Handle animals for the purpose of investigations of mistreatment, or control of abandoned, dangerous, or unattended animals.

Illustrative Examples: Animal Warden; Dog Catcher; Humane Officer

33-9020 Private Detectives and Investigators

This broad occupation is the same as the detailed occupation:
33-9021 Private Detectives and Investigators

33-9021 Private Detectives and Investigators

Detect occurrences of unlawful acts or infractions of rules in private establishment, or seek, examine, and compile information for client.

Illustrative Example: House Detective

33-9030 Security Guards and Gaming Surveillance Officers

This broad occupation includes the following two detailed occupations:
33-9031 Gaming Surveillance Officers and Gaming Investigators
33-9032 Security Guards

33-9031 Gaming Surveillance Officers and Gaming Investigators

Act as oversight and security agent for management and customers. Observe casino or casino hotel operation for irregular activities such as cheating or theft by either employees or patrons. May utilize one-way mirrors above the casino floor, cashier's cage, and from desk. Use of audio/video equipment is also common to observe operation of the business. Usually required to provide verbal and written reports of all violations and suspicious behavior to supervisor.

Illustrative Examples: Casino Surveillance Officer; Casino Investigator

33-9032 Security Guards
Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules.

Illustrative Examples: Bodyguard; Bouncer; Watchguard

33-9090 Miscellaneous Protective Service Workers

This broad occupation includes the following three detailed occupations:
33-9091 Crossing Guards
33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers
33-9099 Protective Service Workers, All Other

33-9091 Crossing Guards
Guide or control vehicular or pedestrian traffic at such places as streets, schools, railroad crossings, or construction sites.

Illustrative Examples: Flagger; Gate Operator; School Patrol

33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers
Monitor recreational areas, such as pools, beaches, or ski slopes to provide assistance and protection to participants.

33-9099 Protective Service Workers, All Other
All protective service workers not listed separately.

Illustrative Examples: Park Ranger; Surveillance-System Monitor; Bus Monitor

35-0000 FOOD PREPARATION AND SERVING RELATED OCCUPATIONS

35-1000 SUPERVISORS, FOOD PREPARATION AND SERVING WORKERS

35-1010 First-Line Supervisors/Managers, Food Preparation and Serving Workers

This broad occupation includes the following two detailed occupations:
35-1011 Chefs and Head Cooks
35-1012 First-Line Supervisors/Managers of Food Preparation and Serving Workers

35-1011 Chefs and Head Cooks
Direct the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts. May participate in cooking.

Illustrative Examples: Executive Chef; Pastry Chef; Sous Chef

35-1012 First-Line Supervisors/Managers of Food Preparation and Serving Workers
Supervise workers engaged in preparing and serving food.

Illustrative Examples: Cafeteria Manager; Caterer; Bar Manager

35-2000 COOKS AND FOOD PREPARATION WORKERS

35-2010 Cooks

This broad occupation includes the following six detailed occupations:
35-2011 Cooks, Fast Food
35-2012 Cooks, Institution and Cafeteria
35-2013 Cooks, Private Household
35-2014 Cooks, Restaurant
35-2015 Cooks, Short Order
35-2019 Cooks, All Other

35-2011 Cooks, Fast Food
Prepare and cook food in a fast food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.

Illustrative Examples: Fry Cook; Pizza Maker

35-2012 Cooks, Institution and Cafeteria
Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.

Illustrative Examples: Camp Cook; Mess Cook; Galley Cook

35-2013 Cooks, Private Household
Prepare meals in private homes.

35-2014 Cooks, Restaurant
Prepare, season, and cook soups, meats, vegetables, desserts, or other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

Illustrative Examples: Broiler Cook; Specialty Foreign Food Cook; Garde-manger

35-2015 Cooks, Short Order
Prepare and cook to order a variety of foods that require only a short preparation time. May take orders from customers and serve patrons at counters or tables. Excludes "Fast Food Cooks" (35-2011).

Illustrative Examples: Barbecue Cook; Griddle Cook

35-2019 Cooks, All Other
All cooks not listed separately.

35-2020 Food Preparation Workers

This broad occupation is the same as the detailed occupation:
35-2021 Food Preparation Workers

35-2021 Food Preparation Workers
Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.

Illustrative Examples: Coffee Maker; Kitchen Helper; Sandwich Maker

35-3000 FOOD AND BEVERAGE SERVING WORKERS

35-3010 BARTENDERS

This broad occupation is the same as the detailed occupation:
35-3011 Bartenders

35-3011 Bartenders
Mix and serve drinks to patrons, directly or through waitstaff.

Illustrative Examples: Barkeeper; Taproom Attendant

35-3020 FAST FOOD AND COUNTER WORKERS

This broad occupation includes the following two detailed occupations:
35-3021 Combined Food Preparation and Serving Workers, Including Fast Food
35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop

35-3021 Combined Food Preparation and Serving Workers, Including Fast Food
Perform duties which combine both food preparation and food service.

Illustrative Examples: Caterers Aide; Deli Clerk; Mess Attendant

35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop
Serve food to diners at counter or from a steam table. Includes counter attendants who also wait tables with "Waiters and Waitresses" (35-3031).

Illustrative Examples: Canteen Operator; Snack Bar Attendant; Hot Dog Attendant

35-3030 WAITERS AND WAITRESSES

This broad occupation is the same as the detailed occupation:
35-3031 Waiters and Waitresses

35-3031 Waiters and Waitresses
Take orders and serve food and beverages to patrons at tables in dining establishment. Excludes "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).

Illustrative Examples: Cocktail Waiter; Wine Steward; Head Waitress

35-3040 Food Servers, Nonrestaurant

This broad occupation is the same as the detailed occupation:
35-3041 Food Servers, Nonrestaurant

35-3041 Food Servers, Nonrestaurant
Serve food to patrons outside of a restaurant environment, such as in hotels, hospital rooms, or cars. Excludes "Door-to-Door Sales Workers, News and Street Vendors, and Related Workers" (41-9091) and "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).

Illustrative Examples: Curb Attendant; Hospital Tray-Service Worker; Room Service Clerk

35-9000 OTHER FOOD PREPARATION AND SERVING RELATED WORKERS

35-9010 Dining Room and Cafeteria Attendants and Bartender Helpers

This broad occupation is the same as the detailed occupation:
35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers

35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers
Facilitate food service. Clean tables, carry dirty dishes, replace soiled table linens; set tables; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food, and serve water, butter, and coffee to patrons.

Illustrative Examples: Busser; Lunchroom Attendant; Tray Setter

35-9020 Dishwashers

This broad occupation is the same as the detailed occupation:
35-9021 Dishwashers

35-9021 Dishwashers
Clean dishes, kitchen, food preparation equipment, or utensils.

Illustrative Examples: Kitchen Cleaner; Glass Washer; Pot Washer

35-9030 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop

This broad occupation is the same as the detailed occupation:
35-9031 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop

35-9031 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop
Welcome patrons, seat them at tables or in lounge, and help ensure quality of facilities and service.

Illustrative Examples: Maitre D'; Dining Room Host

35-9090 Miscellaneous Food Preparation and Serving Related Workers

This broad occupation is the same as the detailed occupation:
35-9099 Food Preparation and Serving Related Workers, All Other

35-9099 Food Preparation and Serving Related Workers, All Other
All food preparation and serving related workers not listed separately.

Illustrative Examples: Vending Machine Attendant; Cafeteria Line Runner

37-0000 BUILDING AND GROUNDS CLEANING AND MAINTENANCE OCCUPATIONS

37-1000 SUPERVISORS, BUILDING AND GROUNDS CLEANING AND MAINTENANCE WORKERS

37-1010 First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers

This broad occupation includes the following two detailed occupations:
37-1011 First-Line Supervisors/Managers of Housekeeping and Janitorial Workers
37-1012 First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers

37-1011 First-Line Supervisors/Managers of Housekeeping and Janitorial Workers

Supervise work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.

Illustrative Examples: Building Superintendent; Household Manager; Housekeeping Supervisor

37-1012 First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers

Plan, organize, direct, or coordinate activities of workers engaged in landscaping or groundskeeping activities, such as planting and maintaining ornamental trees, shrubs, flowers, and lawns, and applying fertilizers, pesticides, and other chemicals, according to contract specifications. May also coordinate activities of workers engaged in terracing hillsides, building retaining walls, constructing pathways, installing patios, and similar activities in following a landscape design plan. Work may involve reviewing contracts to ascertain service, machine, and work force requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing estimates according to labor, material, and machine costs.

Illustrative Examples: Landscape Contractor; Golf Course Superintendent; Nursery Supervisor

37-2000 BUILDING CLEANING AND PEST CONTROL WORKERS

37-2010 Building Cleaning Workers

This broad occupation includes the following three detailed occupations:
37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners
37-2012 Maids and Housekeeping Cleaners
37-2019 Building Cleaning Workers, All Other

37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners
Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs, and cleaning snow or debris from sidewalk.

Illustrative Examples: Floor Cleaner; Building Custodian; Window Washer

37-2012 Maids and Housekeeping Cleaners
Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels, restaurants, and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and vacuuming.

Illustrative Examples: Bed Maker; Chamber Maid; Housekeeper

37-2019 Building Cleaning Workers, All Other
All building cleaning workers not listed separately.

Illustrative Examples: Chimney Sweep; Air Purifier Servicer

37-2020 Pest Control Workers

This broad occupation is the same as the detailed occupation:
37-2021 Pest Control Workers

37-2021 Pest Control Workers

Spray or release chemical solutions or toxic gases and set traps to kill pests and vermin, such as mice, termites, and roaches, that infest buildings and surrounding areas.

Illustrative Examples: Exterminator; Exterminator Helper; Fumigator

37-3000 GROUNDS MAINTENANCE WORKERS

37-3010 Grounds Maintenance Workers

This broad occupation includes the following four detailed occupations:
37-3011 Landscaping and Groundskeeping Workers
37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation
37-3013 Tree Trimmers and Pruners
37-3019 Grounds Maintenance Workers, All Other

37-3011 Landscaping and Groundskeeping Workers

Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units. Excludes "Farmworkers and Laborers, Crop, Nursery, and Greenhouse" (45-2092).

Illustrative Examples: Landscape Gardener; Outdoor Sprinker Installer; Greenskeeper

37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation

Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation or chemical application on trees, shrubs, lawns, or botanical crops. Usually requires specific training and State or Federal certification. Excludes "Commercial Pilots" (53-2012) who operate aviation equipment to dust or spray crops.

Illustrative Examples: Fruit Sprayer; Weed Controller

37-3013 Tree Trimmers and Pruners

Cut away dead or excess branches from trees or shrubs to maintain right-of-way for roads, sidewalks, or utilities, or to improve appearance, health, and value of tree. Prune or treat trees or shrubs using handsaws, pruning hooks, sheers, and clippers. May use truck-mounted lifts and power pruners. May fill cavities in trees to promote healing and prevent deterioration. Excludes workers who primarily perform duties of "Pesticide Handlers, Sprayers, and Applicators, Vegetation" (37-3012) and "Landscaping and Groundskeeping Workers" (37-3011).

Illustrative Examples: Tree Doctor; Grape Vine Pruner

37-3019 Grounds Maintenance Workers, All Other

All grounds maintenance workers not listed separately.

39-0000 PERSONAL CARE AND SERVICE OCCUPATIONS

39-1000 SUPERVISORS, PERSONAL CARE AND SERVICE WORKERS

39-1010 First-Line Supervisors/Managers of Gaming Workers

This broad occupation includes the following two detailed occupations:
39-1011 Gaming Supervisors
39-1012 Slot Key Persons

39-1011 Gaming Supervisors
Supervise gaming operations and personnel in an assigned area. Circulate among tables and observe operations. Ensure that stations and games are covered for each shift. May explain and interpret operating rules of house to patrons. May plan and organize activities and create friendly atmosphere for guests in hotels/casinos. May adjust service complaints. Excludes "Slot Key Persons" (39-1012).

Illustrative Examples: Executive Casino Host; Table Games Supervisor; Pit Boss

39-1012 Slot Key Persons
Coordinate/supervise functions of slot department workers to provide service to patrons. Handle and settle complaints of players. Verify and payoff jackpots. Reset slot machines after payoffs. Make minor repairs or adjustments to slot machines. Recommend removal of slot machines for repair. Report hazards and enforce safety rules.

Illustrative Example: Slot Floor Person

39-1020 First-Line Supervisors/Managers of Personal Service Workers

This broad occupation is the same as the detailed occupation:
39-1021 First-Line Supervisors/Managers of Personal Service Workers

39-1021 First-Line Supervisors/Managers of Personal Service Workers
Supervise and coordinate activities of personal service workers, such as supervisors of flight attendants, hairdressers, or caddies.

Illustrative Examples: Caddymaster; Barber Shop Manager; Health Club Manager

39-2000 ANIMAL CARE AND SERVICE WORKERS

39-2010 Animal Trainers

This broad occupation is the same as the detailed occupation:
39-2011 Animal Trainers

39-2011 Animal Trainers
Train animals for riding, harness, security, performance, or obedience, or assisting persons with disabilities. Accustom animals to human voice and contact; and condition animals to respond to commands. Train animals according to prescribed standards for show or competition. May train animals to carry pack loads or work as part of pack team.

Illustrative Examples: Dog Trainer; Horse Breaker; Lion Trainer

39-2020 Nonfarm Animal Caretakers

This broad occupation is the same as the detailed occupation:
39-2021 Nonfarm Animal Caretakers

39-2021 Nonfarm Animal Caretakers
Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May clean, disinfect, and repair cages, pens, or fish tanks. Excludes "Veterinary Assistants and Laboratory Animal Caretakers" (31-9096).

Illustrative Examples: Dog Groomer; Kennel Worker; Stable Attendant

39-3000 ENTERTAINMENT ATTENDANTS AND RELATED WORKERS

39-3010 Gaming Services Workers

This broad occupation includes the following three detailed occupations:
39-3011 Gaming Dealers
39-3012 Gaming and Sports Book Writers and Runners
39-3019 Gaming Service Workers, All Other

39-3011 Gaming Dealers
Operate table games. Stand or sit behind table and operate games of chance by dispensing the appropriate number of cards or blocks to players, or operating other gaming equipment. Compare the house's hand against players' hands and payoff or collect players' money or chips.

Illustrative Examples: Blackjack Dealers; Roulette Dealers; Craps Dealers

39-3012 Gaming and Sports Book Writers and Runners
Assist in the operation of games such as keno and bingo. Scan winning tickets presented by patrons, calculate amount of winnings and pay patrons. May operate keno and bingo equipment. May start gaming equipment that randomly selects numbers. May announce number selected until total numbers specified for each game are selected. May pick up tickets from players, collect bets, receive, verify and record patrons' cash wagers.

Illustrative Examples: Sheet Writer; Keno Writers; Keno Runners

39-3019 Gaming Service Workers, All Other
All Gaming Service Workers not listed separately.

Illustrative Examples: Shill; Chip Mucker; Pit Clerk

39-3020 Motion Picture Projectionists
This broad occupation is the same as the detailed occupation:
39-3021 Motion Picture Projectionists

39-3021 Motion Picture Projectionists
Set up and operate motion picture projection and related sound reproduction equipment.

Illustrative Examples: Chief Projectionist; Film Projector Operator

39-3030 Ushers, Lobby Attendants, and Ticket Takers
This broad occupation is the same as the detailed occupation:
39-3031 Ushers, Lobby Attendants, and Ticket Takers

39-3031 Ushers, Lobby Attendants, and Ticket Takers
Assist patrons at entertainment events by performing duties, such as collecting admission tickets and passes from patrons, assisting in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.

Illustrative Examples: Door Attendant; Ticket Collector

39-3090 Miscellaneous Entertainment Attendants and Related Workers

This broad occupation includes the following four detailed occupations:
39-3091 Amusement and Recreation Attendants
39-3092 Costume Attendants
39-3093 Locker Room, Coatroom, and Dressing Room Attendants
39-3099 Entertainment Attendants and Related Workers, All Other

39-3091 Amusement and Recreation Attendants
Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.

Illustrative Examples: Arcade Attendant; Golf Course Starter; Caddy

39-3092 Costume Attendants
Select, fit, and take care of costumes for cast members, and aid entertainers.

Illustrative Examples: Wardrobe Custodian; Dresser

39-3093 Locker Room, Coatroom, and Dressing Room Attendants
Provide personal items to patrons or customers in locker rooms, dressing rooms, or coatrooms.

Illustrative Examples: Bathhouse Attendant; Jockey Valet

39-3099 Entertainment Attendants and Related Workers, All Other
All entertainment attendants and related workers not listed separately.

Illustrative Example: Department Store Greeter

39-4000 FUNERAL SERVICE WORKERS

39-4010 Embalmers

This broad occupation is the same as the detailed occupation:
39-4011 Embalmers

39-4011 Embalmers

Prepare bodies for interment in conformity with legal requirements.

39-4020 Funeral Attendants

This broad occupation is the same as the detailed occupation:
39-4021 Funeral Attendants

39-4021 Funeral Attendants

Perform variety of tasks during funeral, such as placing casket in parlor or chapel prior to service; arranging floral offerings or lights around casket; directing or escorting mourners; closing casket; and issuing and storing funeral equipment.

Illustrative Examples: Mortician Helper; Pallbearer

39-5000 PERSONAL APPEARANCE WORKERS

39-5010 Barbers and Cosmetologists

This broad occupation includes the following two detailed occupations:
39-5011 Barbers
39-5012 Hairdressers, Hairstylists, and Cosmetologists

39-5011 Barbers

Provide barbering services, such as cutting, trimming, shampooing, and styling hair, trimming beards, or giving shaves.

Illustrative Examples: Barber Apprentice; Hair Cutter

39-5012 Hairdressers, Hairstylists, and Cosmetologists

Provide beauty services, such as shampooing, cutting, coloring, and styling hair,

and massaging and treating scalp. May also apply makeup, dress wigs, perform hair removal, and provide nail and skin care services.

Illustrative Examples: Beautician; Wig Stylist; Electrologist

39-5090 Miscellaneous Personal Appearance Workers

This broad occupation includes the following four detailed occupations:
39-5091 Makeup Artists, Theatrical and Performance
39-5092 Manicurists and Pedicurists
39-5093 Shampooers
39-5094 Skin Care Specialists

39-5091 Makeup Artists, Theatrical and Performance
Apply makeup to performers to reflect period, setting, and situation of their role.

39-5092 Manicurists and Pedicurists
Clean and shape customers' fingernails and toenails. May polish or decorate nails.

Illustrative Example: Fingernail Sculptor

39-5093 Shampooers
Shampoo and rinse customers' hair.

Illustrative Example: Scalp Treatment Operator

39-5094 Skin Care Specialists
Provide skin care treatments to face and body to enhance an individual's appearance.

Illustrative Example: Esthetician

39-6000 TRANSPORTATION, TOURISM, AND LODGING ATTENDANTS

39-6010 Baggage Porters, Bellhops, and Concierges

This broad occupation includes the following two detailed occupations:
39-6011 Baggage Porters and Bellhops
39-6012 Concierges

39-6011 Baggage Porters and Bellhops
Handle baggage for travelers at transportation terminals or for guests at hotels or similar establishments.

Illustrative Examples: Baggage Handler; Lobby Porter; Skycap

39-6012 Concierges
Assist patrons at hotel, apartment or office building with personal services. May take messages, arrange or give advice on transportation, business services or entertainment, or monitor guest requests for housekeeping and maintenance.

39-6020 Tour and Travel Guides

This broad occupation includes the following two detailed occupations:
39-6021 Tour Guides and Escorts
39-6022 Travel Guides

39-6021 Tour Guides and Escorts
Escort individuals or groups on sightseeing tours or through places of interest, such as industrial establishments, public buildings, and art galleries.

Illustrative Examples: Page; Sightseeing Guide

39-6022 Travel Guides
Plan, organize, and conduct long distance cruises, tours, and expeditions for individuals and groups.

Illustrative Examples: Cruise Director; Tour Director

39-6030 Transportation Attendants

This broad occupation includes the following two detailed occupations:
39-6031 Flight Attendants
39-6032 Transportation Attendants, Except Flight Attendants and Baggage Porters

39-6031 Flight Attendants
Provide personal services to ensure the safety and comfort of airline passengers during flight. Greet passengers, verify tickets, explain use of safety equipment, and serve food or beverages.

Illustrative Examples: Flight Steward; Airline Stewardess

39-6032 Transportation Attendants, Except Flight Attendants and Baggage Porters
Provide services to ensure the safety and comfort of passengers aboard ships, buses, trains, or within the station or terminal. Perform duties, such as greeting passengers, explaining the use of safety equipment, serving meals or beverages, or answering questions related to travel.

Illustrative Examples: Club Car Attendant; Ground Attendant; Subway Conductor

39-9000 OTHER PERSONAL CARE AND SERVICE WORKERS

39-9010 Child Care Workers
This broad occupation is the same as the detailed occupation:
39-9011 Child Care Workers

39-9011 Child Care Workers
Attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Excludes "Preschool Teachers" (25-2011) and "Teacher Assistants" (25-9041).

Illustrative Examples: Baby Sitter; Governess; Nanny

39-9020 Personal and Home Care Aides
This broad occupation is the same as the detailed occupation:
39-9021 Personal and Home Care Aides

39-9021 Personal and Home Care Aides
Assist elderly or disabled adults with daily living activities at the person's home or in a daytime non-residential facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide meals and supervised activities at non-residential care facilities. May advise families, the elderly, and disabled on such things as nutrition, cleanliness, and household utilities.

Illustrative Examples: Blind Escort; Caregiver; Geriatric Aide

39-9030 Recreation and Fitness Workers

This broad occupation includes the following two detailed occupations:
39-9031 Fitness Trainers and Aerobics Instructors
39-9032 Recreation Workers

39-9031 Fitness Trainers and Aerobics Instructors

Instruct or coach groups or individuals in exercise activities and the fundamentals of sports. Demonstrate techniques and methods of participation. Observe participants and inform them of corrective measures necessary to improve their skills. Those required to hold teaching degrees should be reported in the appropriate teaching category. Excludes "Athletic Trainers" (29-9091).

Illustrative Examples: Exercise Teacher; Personal Trainer; Yoga Teacher

39-9032 Recreation Workers

Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individual members.

Illustrative Examples: Camp Counselor; Playground Director; Activities Director

39-9040 Residential Advisors

This broad occupation is the same as the detailed occupation:
39-9041 Residential Advisors

39-9041 Residential Advisors

Coordinate activities for residents of boarding schools, college fraternities or sororities, college dormitories, or similar establishments. Order supplies and determine need for maintenance, repairs, and furnishings. May maintain household records and assign rooms. May refer residents to counseling resources if needed.

Illustrative Examples: Dormitory Supervisor; House Parent

39-9090 Miscellaneous Personal Care and Service Workers

This broad occupation is the same as the detailed occupation:
39-9099 Personal Care and Service Workers, All Other

39-9099 Personal Care and Service Workers, All Other

All personal care and service workers not listed separately.

Illustrative Examples: Shoe Shiner; Chaperone; Servant

41-0000 SALES AND RELATED OCCUPATIONS

41-1000 SUPERVISORS, SALES WORKERS

41-1010 First-Line Supervisors/Managers, Sales Workers

This broad occupation includes the following two detailed occupations:
41-1011 First-Line Supervisors/Managers of Retail Sales Workers
41-1012 First-Line Supervisors/Managers of Non-Retail Sales Workers

41-1011 First-Line Supervisors/Managers of Retail Sales Workers
Directly supervise sales workers in a retail establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.

Illustrative Examples: Department Manager; Flower Shop Manager; Supervisor of Cashiers

41-1012 First-Line Supervisors/Managers of Non-Retail Sales Workers
Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties, such as budgeting, accounting, and personnel work, in addition to supervisory duties.

Illustrative Examples: District Sales Manager; Dry Cleaning Manager; Blood-Donor Recruiter Supervisor

41-2000 RETAIL SALES WORKERS

41-2010 Cashiers

This broad occupation includes the following two detailed occupations:
41-2011 Cashiers
41-2012 Gaming Change Persons and Booth Cashiers

41-2011 Cashiers
Receive and disburse money in establishments other than financial institutions. Usually involves use of electronic scanners, cash registers, or related equipment. Often involved in processing credit or debit card transactions and validating checks.

Illustrative Examples: Auction Clerk; Toll Collector; Disbursement Clerk

41-2012 Gaming Change Persons and Booth Cashiers
Exchange coins and tokens for patrons' money. May issue payoffs and obtain customer's signature on receipt when winnings exceed the amount held in the slot machine. May operate a booth in the slot machine area and furnish change persons with money bank at the start of the shift, or count and audit money in drawers.

Illustrative Examples: Carousel Attendant; Slot Attendant

41-2020 Counter and Rental Clerks and Parts Salespersons

This broad occupation includes the following two detailed occupations:
41-2021 Counter and Rental Clerks
41-2022 Parts Salespersons

41-2021 Counter and Rental Clerks
Receive orders for repairs, rentals, and services. May describe available options, compute cost, and accept payment.

Illustrative Examples: Airplane-Charter Clerk; Car Rental Agent; Skate Shop Attendant

41-2022 Parts Salespersons
Sell spare and replacement parts and equipment in repair shop or parts store.

Illustrative Examples: Parts Clerk; Auto Parts Salesperson; Electronic Parts Salesperson

41-2030 Retail Salespersons

This broad occupation is the same as the detailed occupation:
41-2031 Retail Salespersons

41-2031 Retail Salespersons
Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment. Excludes "Cashiers" (41-2011).

Illustrative Examples: Car Dealer; Haberdasher; Wallpaper Salesperson

41-3000 SALES REPRESENTATIVES, SERVICES

41-3010 ADVERTISING SALES AGENTS

This broad occupation is the same as the detailed occupation:
41-3011 Advertising Sales Agents

41-3011 Advertising Sales Agents
Sell or solicit advertising, including graphic art, advertising space in publications, custom made signs, or TV and radio advertising time. May obtain leases for outdoor advertising sites or persuade retailer to use sales promotion display items.

Illustrative Examples: Radio Time Salesperson; Yellow Pages Salesperson; Leasing Agent Outdoor Advertising

41-3020 INSURANCE SALES AGENTS

This broad occupation is the same as the detailed occupation:
41-3021 Insurance Sales Agents

41-3021 Insurance Sales Agents
Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company.

Illustrative Examples: Insurance Broker; Insurance Solicitor; Pension Agent

41-3030 SECURITIES, COMMODITIES, AND FINANCIAL SERVICES SALES AGENTS

This broad occupation is the same as the detailed occupation:
41-3031 Securities, Commodities, and Financial Services Sales Agents

41-3031 Securities, Commodities, and Financial Services Sales Agents
Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling. May advise securities customers about such things as stocks, bonds, and market conditions.

Illustrative Examples: Investment Banker; Stock Broker; Stock Trader

41-3040 Travel Agents

This broad occupation is the same as the detailed occupation:
41-3041 Travel Agents

41-3041 Travel Agents
Plan and sell transportation and accommodations for travel agency customers. Determine destination, modes of transportation, travel dates, costs, and accommodations required.

Illustrative Examples: Travel Consultant; Travel Counselor

41-3090 Miscellaneous Sales Representatives, Services

This broad occupation is the same as the detailed occupation:
41-3099 Sales Representatives, Services, All Other

41-3099 Sales Representatives, Services, All Other
All services sales representatives not listed separately.

Illustrative Examples: Data Processing Sales Representative; Telecommunications Consultant

41-4000 SALES REPRESENTATIVES, WHOLESALE AND MANUFACTURING

41-4010 Sales Representatives, Wholesale and Manufacturing

This broad occupation includes the following two detailed occupations:
41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products

41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.

Illustrative Examples: Electronics Sales Representative; Oilfield Equipment Sales Representative; Pharmaceutical Representative

41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

Illustrative Examples: Diamond Broker; Oil Distributor; Wool Merchant

41-9000 OTHER SALES AND RELATED WORKERS

41-9010 Models, Demonstrators, and Product Promoters
This broad occupation includes the following two detailed occupations:
41-9011 Demonstrators and Product Promoters
41-9012 Models

41-9011 Demonstrators and Product Promoters
Demonstrate merchandise and answer questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.

Illustrative Examples: Home Demonstrator; Exhibit-Display Representative

41-9012 Models
Model garments and other apparel to display clothing before prospective buyers at fashion shows, private showings, retail establishments, or photographer. May pose for photos to be used for advertising purposes. May pose as subject for paintings, sculptures, and other types of artistic expression.

Illustrative Examples: Fashion Model; Mannequin; Photographer's Model

41-9020 Real Estate Brokers and Sales Agents
This broad occupation includes the following two detailed occupations:
41-9021 Real Estate Brokers
41-9022 Real Estate Sales Agents

41-9021 Real Estate Brokers
Operate real estate office, or work for commercial real estate firm, overseeing real estate transactions. Other duties usually include selling real estate or renting properties and arranging loans.

41-9022 Real Estate Sales Agents
Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Includes agents who represent buyer.

Illustrative Examples: Apartment Rental Agent; Land Agent; Right of Way Agent

41-9030 Sales Engineers

This broad occupation is the same as the detailed occupation:
41-9031 Sales Engineers

41-9031 Sales Engineers
Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering. Excludes "Engineers" (17-2011 through 17-2199) whose primary function is not marketing or sales.

Illustrative Examples: Aeronautical Products Sales Engineer; Industrial Machinery Sales Engineer; Nuclear Equipment Sales Engineer

41-9040 Telemarketers

This broad occupation is the same as the detailed occupation:
41-9041 Telemarketers

41-9041 Telemarketers
Solicit orders for goods or services over the telephone.

Illustrative Examples: Telephone Salesperson; Telephone Solicitor

41-9090 Miscellaneous Sales and Related Workers

This broad occupation includes the following two detailed occupations:
41-9091 Door-to-Door Sales Workers, News and Street Vendors, and Related Workers
41-9099 Sales and Related Workers, All Other

41-9091 Door-to-Door Sales Workers, News and Street Vendors, and Related Workers
Sell goods or services door-to-door or on the street.

Illustrative Examples: Peddler; Direct Selling

41-9099 Sales and Related Workers, All Other
All sales and related workers not listed separately.

Illustrative Examples: Bridal Consultant; Fund Raiser; Auctioneer

43-0000 OFFICE AND ADMINISTRATIVE SUPPORT OCCUPATIONS

43-1000 SUPERVISORS, OFFICE AND ADMINISTRATIVE SUPPORT WORKERS

43-1010 First-Line Supervisors/Managers of Office and Administrative Support Workers

This broad occupation is the same as the detailed occupation:
43-1011 First-Line Supervisors/Managers of Office and Administrative Support Workers

43-1011 First-Line Supervisors/Managers of Office and Administrative Support Workers
Supervise and coordinate the activities of clerical and administrative support workers.

Illustrative Examples: Claims Supervisor; Stock Room Manager; Teller Supervisor

43-2000 COMMUNICATIONS EQUIPMENT OPERATORS

43-2010 Switchboard Operators, Including Answering Service

This broad occupation is the same as the detailed occupation:
43-2011 Switchboard Operators, Including Answering Service

43-2011 Switchboard Operators, Including Answering Service
Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.

Illustrative Examples: Communication Center Operator; Exchange Operator; Telephone Answering Service Operator

43-2020 Telephone Operators

This broad occupation is the same as the detailed occupation:
43-2021 Telephone Operators

43-2021 Telephone Operators
Provide information by accessing alphabetical and geographical directories. Assist customers with special billing requests, such as charges to a third party and credits or refunds for incorrectly dialed numbers or bad connections. May handle emergency calls and assist children or people with physical disabilities to make telephone calls.

Illustrative Examples: Directory Assistance Operator; Long Distance Operator; Routing Operator

43-2090 Miscellaneous Communications Equipment Operators
This broad occupation is the same as the detailed occupation:
43-2099 Communications Equipment Operators, All Other

43-2099 Communications Equipment Operators, All Other
All communications equipment operators not listed separately.

Illustrative Example: Telegraph Operator

43-3000 FINANCIAL CLERKS

43-3010 Bill and Account Collectors
This broad occupation is the same as the detailed occupation:
43-3011 Bill and Account Collectors

43-3011 Bill and Account Collectors
Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; keeping records of collection and status of accounts.

Illustrative Examples: Payment Collector; Collection Clerk; Installment Agent

43-3020 Billing and Posting Clerks and Machine Operators
This broad occupation is the same as the detailed occupation:
43-3021 Billing and Posting Clerks and Machine Operators

43-3021 Billing and Posting Clerks and Machine Operators
Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.

Illustrative Examples: Calculating Machine Operator; Invoice Control Clerk; Rating Clerk

43-3030 Bookkeeping, Accounting, and Auditing Clerks

This broad occupation is the same as the detailed occupation:
43-3031 Bookkeeping, Accounting, and Auditing Clerks

43-3031 Bookkeeping, Accounting, and Auditing Clerks
Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers.

Illustrative Examples: Accounts Receivable Clerk; Ledger Clerk; Voucher Examiner

43-3040 Gaming Cage Workers

This broad occupation is the same as the detailed occupation:
43-3041 Gaming Cage Cashiers

43-3041 Gaming Cage Workers
In a gaming establishment, conduct financial transactions for patrons. May reconcile daily summaries of transactions to balance books. Accept patron's credit application and verify credit references to provide check-cashing authorization or to establish house credit accounts. May sell gambling chips, tokens, or tickets to patrons, or to other workers for resale to patrons. May convert gaming chips, tokens, or tickets to currency upon patron's request. May use a cash register or computer to record transaction.

43-3050 Payroll and Timekeeping Clerks

This broad occupation is the same as the detailed occupation:
43-3051 Payroll and Timekeeping Clerks

43-3051 Payroll and Timekeeping Clerks
Compile and post employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions. May prepare paychecks.

Illustrative Examples: Attendance Clerk; Payroll Bookkeeper; Timekeeper

43-3060 Procurement Clerks
This broad occupation is the same as the detailed occupation:
43-3061 Procurement Clerks

43-3061 Procurement Clerks
Compile information and records to draw up purchase orders for procurement of materials and services.

Illustrative Examples: Property and Supply Officer; Purchasing Clerk

43-3070 Tellers
This broad occupation is the same as the detailed occupation:
43-3071 Tellers

43-3071 Tellers
Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.

Illustrative Examples: Foreign Exchange Clerk; Money Order Clerk; Securities Teller

43-4000 INFORMATION AND RECORD CLERKS

43-4010 Brokerage Clerks
This broad occupation is the same as the detailed occupation:
43-4011 Brokerage Clerks

43-4011 Brokerage Clerks
Perform clerical duties involving the purchase or sale of securities. Duties include writing orders for stock purchases and sales, computing transfer taxes, verifying stock transac-

tions, accepting and delivering securities, tracking stock price fluctuations, computing equity, distributing dividends, and keeping records of daily transactions and holdings.

Illustrative Examples: Portfolio Assistant; Dividend Clerk; Telephone Quotation Clerk

43-4020 Correspondence Clerks

This broad occupation is the same as the detailed occupation:
43-4021 Correspondence Clerks

43-4021 Correspondence Clerks

Compose letters in reply to requests for merchandise, damage claims, credit and other information, delinquent accounts, incorrect billings, or unsatisfactory services. Duties may include gathering data to formulate reply and typing correspondence.

Illustrative Examples: Collection Correspondent; Fan Mail Editor

43-4030 Court, Municipal, and License Clerks

This broad occupation is the same as the detailed occupation:
43-4031 Court, Municipal, and License Clerks

43-4031 Court, Municipal, and License Clerks

Perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council; answer official correspondence; keep fiscal records and accounts; issue licenses or permits; record data, administer tests, or collect fees. Includes chief clerks with "Managers, All Other" (11-9199).

Illustrative Examples: Circuit Court Clerk; Warrant Clerk

43-4040 Credit Authorizers, Checkers, and Clerks

This broad occupation is the same as the detailed occupation:
43-4041 Credit Authorizers, Checkers, and Clerks

43-4041 Credit Authorizers, Checkers, and Clerks

Authorize credit charges against customers' accounts. Investigate history and credit standing of individuals or business establishments applying for credit. May interview ap-

plicants to obtain personal and financial data; determine credit worthiness; process applications; and notify customers of acceptance or rejection of credit.

Illustrative Examples: Credit Interviewer; Credit Rating Inspector; Loan Adjuster

43-4050 Customer Service Representatives

This broad occupation is the same as the detailed occupation:
43-4051 Customer Service Representatives

43-4051 Customer Service Representatives

Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. Excludes individuals whose duties are primarily sales or repair.

Illustrative Examples: Complaint Adjuster; Passenger Relations Representative; Telephone Service Adviser

43-4060 Eligibility Interviewers, Government Programs

This broad occupation is the same as the detailed occupation:
43-4061 Eligibility Interviewers, Government Programs

43-4061 Eligibility Interviewers, Government Programs

Determine eligibility of persons applying to receive assistance from government programs and agency resources, such as welfare, unemployment benefits, social security, and public housing.

Illustrative Examples: Unemployment Benefits Claims Taker; County Service Officer; Welfare Interviewer

43-4070 File Clerks

This broad occupation is the same as the detailed occupation:
43-4071 File Clerks

43-4071 File Clerks

File correspondence, cards, invoices, receipts, and other records in alphabetical

or numerical order or according to the filing system used. Locate and remove material from file when requested.

Illustrative Examples: Computer Tape Librarian; Document Clerk; Records Custodian

43-4080 Hotel, Motel, and Resort Desk Clerks

This broad occupation is the same as the detailed occupation:
43-4081 Hotel, Motel, and Resort Desk Clerks

43-4081 Hotel, Motel, and Resort Desk Clerks

Accommodate hotel, motel, and resort patrons by registering and assigning rooms to guests, issuing room keys, transmitting and receiving messages, keeping records of occupied rooms and guests' accounts, making and confirming reservations, and presenting statements to and collecting payments from departing guests.

Illustrative Examples: Register Clerk; Room Clerk

43-4110 Interviewers, Except Eligibility and Loan

This broad occupation is the same as the detailed occupation:
43-4111 Interviewers, Except Eligibility and Loan

43-4111 Interviewers, Except Eligibility and Loan

Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms.

Illustrative Examples: Census Taker; Market Research Interviewer; Out-patient Admitting Clerk

43-4120 Library Assistants, Clerical

This broad occupation is the same as the detailed occupation:
43-4121 Library Assistants, Clerical

43-4121 Library Assistants, Clerical

Compile records, sort and shelve books, and issue and receive library materials such as pictures, cards, slides and microfilm. Locate library materials for loan

and replace material in shelving area, stacks, or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials.

Illustrative Examples: Braille and Talking Books Clerk; Circulation Clerk; Microfilm Clerk

43-4130 Loan Interviewers and Clerks

This broad occupation is the same as the detailed occupation:
43-4131 Loan Interviewers and Clerks

43-4131 Loan Interviewers and Clerks

Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan.

Illustrative Examples: Loan Closer; Loan Processor; Mortgage Clerk

43-4140 New Accounts Clerks

This broad occupation is the same as the detailed occupation:
43-4141 New Accounts Clerks

43-4141 New Accounts Clerks

Interview persons desiring to open bank accounts. Explain banking services available to prospective customers and assist them in preparing application form.

Illustrative Example: Banking Services Clerk

43-4150 Order Clerks

This broad occupation is the same as the detailed occupation:
43-4151 Order Clerks

43-4151 Order Clerks

Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities. Duties include informing customers of receipt, prices, shipping dates, and delays; preparing con-

tracts; and handling complaints. Excludes "Dispatchers, Except Police, Fire, and Ambulance" (43-5032) who both dispatch and take orders for services.

Illustrative Examples: Catalogue Clerk; Subscription Clerk; Classified Advertisement Clerk

43-4160 Human Resources Assistants, Except Payroll and Timekeeping

This broad occupation is the same as the detailed occupation:
43-4161 Human Resources Assistants, Except Payroll and Timekeeping

43-4161 Human Resources Assistants, Except Payroll and Timekeeping
Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and date of and reason for termination. Compile and type reports from employment records. File employment records. Search employee files and furnish information to authorized persons.

Illustrative Example: Personnel Clerk

43-4170 Receptionists and Information Clerks

This broad occupation is the same as the detailed occupation:
43-4171 Receptionists and Information Clerks

43-4171 Receptionists and Information Clerks
Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization. Excludes "Switchboard Operators, Including Answering Service" (43-2011).

Illustrative Examples: Appointment Clerk; Front Desk Clerk; Referral and Information Aide

43-4180 Reservation and Transportation Ticket Agents and Travel Clerks

This broad occupation is the same as the detailed occupation:
43-4181 Reservation and Transportation Ticket Agents and Travel Clerks

43-4181 Reservation and Transportation Ticket Agents and Travel Clerks
Make and confirm reservations and sell tickets to passengers and for large hotel or motel chains. May check baggage and direct passengers to designated concourse, pier, or track; make reservations, deliver tickets, arrange for visas, contact individuals and groups to inform them of package tours, or provide tourists with travel information, such as points of interest, restaurants, rates, and emergency service. Excludes "Travel Agents" (41-3041), "Hotel, Motel, and Resort Desk Clerks" (43-4081), and "Cashiers" (41-2011) who sell tickets for local transportation.

Illustrative Examples: Ticket Clerk; Hotel Reservationist; Gate Agent

43-4190 Miscellaneous Information and Record Clerks

This broad occupation is the same as the detailed occupation:
43-4199 Information and Record Clerks, All Other

43-4199 Information and Record Clerks, All Other
All information and record clerks not listed separately.

Illustrative Examples: Student Admissions Clerk; Suggestion Clerk; Vault Custodian

43-5000 MATERIAL RECORDING, SCHEDULING, DISPATCHING, AND DISTRIBUTING WORKERS

43-5010 Cargo and Freight Agents

This broad occupation is the same as the detailed occupation:
43-5011 Cargo and Freight Agents

43-5011 Cargo and Freight Agents
Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals, and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to loading platform. Prepare and examine bills of lading to determine shipping charges and tariffs.

Illustrative Examples: Routing Agent; Shipping Agent

43-5020 Couriers and Messengers

This broad occupation is the same as the detailed occupation:
43-5021 Couriers and Messengers

43-5021 Couriers and Messengers
Pick up and carry messages, documents, packages, and other items between offices or departments within an establishment or to other business concerns, traveling by foot, bicycle, motorcycle, automobile, or public conveyance. Excludes "Truck Drivers, Light or Delivery Services" (53-3033).

Illustrative Examples: Message Delivery Clerk; Telegraph Messenger

43-5030 Dispatchers

This broad occupation includes the following two detailed occupations:
43-5031 Police, Fire, and Ambulance Dispatchers
43-5032 Dispatchers, Except Police, Fire, and Ambulance

43-5031 Police, Fire, and Ambulance Dispatchers
Receive complaints from public concerning crimes and police emergencies. Broadcast orders to police patrol units in vicinity of complaint to investigate. Operate radio, telephone, or computer equipment to receive reports of fires and medical emergencies and relay information or orders to proper officials.

Illustrative Examples: 911 Operator; Emergency Operator; Public Safety Dispatcher

43-5032 Dispatchers, Except Police, Fire, and Ambulance
Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business. Duties may include using radio, telephone, or computer to transmit assignments and compiling statistics and reports on work progress.

Illustrative Examples: Security Dispatcher; Repair Service Dispatcher; Taxicab Dispatcher

43-5040 Meter Readers, Utilities

This broad occupation is the same as the detailed occupation:
43-5041 Meter Readers, Utilities

43-5041 Meter Readers, Utilities
Read meter and record consumption of electricity, gas, water, or steam.

Illustrative Examples: Electric Meter Reader; Meter Record Clerk; Water Meter Reader

43-5050 Postal Service Workers

This broad occupation includes the following three detailed occupations:
43-5051 Postal Service Clerks
43-5052 Postal Service Mail Carriers
43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators

43-5051 Postal Service Clerks

Perform any combination of tasks in a post office, such as receive letters and parcels; sell postage and revenue stamps, postal cards, and stamped envelopes; fill out and sell money orders; place mail in pigeon holes of mail rack or in bags according to State, address, or other scheme; and examine mail for correct postage.

Illustrative Examples: Parcel Post Clerk; Special Delivery Clerk; Stamp Clerk

43-5052 Postal Service Mail Carriers

Sort mail for delivery. Deliver mail on established route by vehicle or on foot.

Illustrative Examples: Letter Carrier; Mail Deliverer; Route Carrier

43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators

Prepare incoming and outgoing mail for distribution. Examine, sort, and route mail by State, type of mail, or other scheme. Load, operate, and occasionally adjust and repair mail processing, sorting, and canceling machinery. Keep records of shipments, pouches, and sacks; and other duties related to mail handling within the postal service. Must complete a competitive exam. Excludes "Postal Service Clerks" (43-5051) and "Postal Service Mail Carriers" (43-5052).

Illustrative Examples: Mail Weigher; Mail Handler Sorting Mail

43-5060 Production, Planning, and Expediting Clerks

This broad occupation is the same as the detailed occupation:
43-5061 Production, Planning, and Expediting Clerks

43-5061 Production, Planning, and Expediting Clerks

Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule. Duties include reviewing and distributing production, work, and shipment schedules;

conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work, inventory levels, costs, and production problems. Excludes "Weighers, Measurers, Checkers, and Samplers, Recordkeeping" (43-5111).

Illustrative Examples: Assignment Agent; Production Dispatcher; Expediter

43-5070 Shipping, Receiving, and Traffic Clerks

This broad occupation is the same as the detailed occupation:
43-5071 Shipping, Receiving, and Traffic Clerks

43-5071 Shipping, Receiving, and Traffic Clerks
Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products. Excludes "Stock Clerks and Order Fillers" (43-5081) and "Weighers, Measurers, Checkers, and Samplers, Recordkeeping" (43-5111).

Illustrative Examples: Receiver; Garment Sorter; Freight Separator

43-5080 Stock Clerks and Order Fillers

This broad occupation is the same as the detailed occupation:
43-5081 Stock Clerks and Order Fillers

43-5081 Stock Clerks and Order Fillers
Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays. Excludes "Laborers and Freight, Stock, and Material Movers, Hand" (53-7062), and "Shipping, Receiving, and Traffic Clerks" (43-5071).

Illustrative Examples: Inventory Control Clerk; Tool-Crib Attendant; Warehouse Clerk

43-5110 Weighers, Measurers, Checkers, and Samplers, Recordkeeping

This broad occupation is the same as the detailed occupation:
43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping

43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping
Weigh, measure, and check materials, supplies, and equipment for the purpose of keeping relevant records. Duties are primarily clerical by nature. Includes workers who collect and keep record of samples of products or materials. Excludes production "Inspectors, Testers, Sorters, Samplers, and Weighers" (51-9061).

Illustrative Examples: Counter; Inventory Checker; Scale Attendant

43-6000 SECRETARIES AND ADMINISTRATIVE ASSISTANTS

43-6010 Secretaries and Administrative Assistants

This broad occupation includes the following four detailed occupations:
43-6011 Executive Secretaries and Administrative Assistants
43-6012 Legal Secretaries
43-6013 Medical Secretaries
43-6014 Secretaries, Except Legal, Medical, and Executive

43-6011 Executive Secretaries and Administrative Assistants
Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff. Excludes "Secretaries" (43-6012 through 43-6014).

Illustrative Example: Administrative Aide

43-6012 Legal Secretaries
Perform secretarial duties utilizing legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.

43-6013 Medical Secretaries
Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.

Illustrative Examples: Psychiatric Secretary; Dental Secretary

43-6014 Secretaries, Except Legal, Medical, and Executive
Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers. Excludes legal, medical, or executive secretaries and administrative assistants (43-6011 through 43-6013).

Illustrative Examples: Personal Secretary; Office Secretary; Receptionist Secretary

43-9000 OTHER OFFICE AND ADMINISTRATIVE SUPPORT WORKERS

43-9010 Computer Operators

This broad occupation is the same as the detailed occupation:
43-9011 Computer Operators

43-9011 Computer Operators
Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. May enter commands at a computer terminal and set controls on computer and peripheral devices. Monitor and respond to operating and error messages. Excludes "Data Entry Keyers" (43-9021).

Illustrative Examples: Console Operator; Data Processing Clerk; Peripheral Equipment Operator

43-9020 Data Entry and Information Processing Workers

This broad occupation includes the following two detailed occupations:
43-9021 Data Entry Keyers
43-9022 Word Processors and Typists

43-9021 Data Entry Keyers
Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing. Excludes "Word Processors and Typists" (43-9022).

Illustrative Examples: Keypunch Operator; Data Typist

43-9022 Word Processors and Typists
Use word processor/computer or typewriter to type letters, reports, forms, or other material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Includes composing data keyers. Excludes "Data Entry Keyers" (43-9021), "Secretaries and Administrative Assistants" (43-6011 through 43-6014), "Court Reporters" (23-2091), and "Medical Transcriptionists" (31-9094).

Illustrative Examples: Clerk Typist; Dictaphone Typist

43-9030 Desktop Publishers

This broad occupation is the same as the detailed occupation:
43-9031 Desktop Publishers

43-9031 Desktop Publishers
Format typescript and graphic elements using computer software to produce publication-ready material.

Illustrative Examples: Computer Compositor; Electronic Pagination System Operator; Page Makeup System Operator

43-9040 Insurance Claims and Policy Processing Clerks

This broad occupation is the same as the detailed occupation:
43-9041 Insurance Claims and Policy Processing Clerks

43-9041 Insurance Claims and Policy Processing Clerks
Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives. Excludes "Claims Adjusters, Examiners, and Investigators" (13-1031).

Illustrative Examples: Claim Taker; Policy Issue Clerk; Underwriting Clerk

43-9050 Mail Clerks and Mail Machine Operators, Except Postal Service

This broad occupation is the same as the detailed occupation:
43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service

43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service
Prepare incoming and outgoing mail for distribution. Use hand or mail handling machines to time stamp, open, read, sort, and route incoming mail; and address, seal, stamp, fold, stuff, and affix postage to outgoing mail or packages. Duties may also include keeping necessary records and completed forms.

Illustrative Examples: Addressing Machine Operator; Mail Distributor; Mail Opener

43-9060 Office Clerks, General

This broad occupation is the same as the detailed occupation:
43-9061 Office Clerks, General

43-9061 Office Clerks, General
Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing.

Illustrative Examples: Administrative Clerk; Office Assistant; Real Estate Clerk

43-9070 Office Machine Operators, Except Computer

This broad occupation is the same as the detailed occupation:
43-9071 Office Machine Operators, Except Computer

43-9071 Office Machine Operators, Except Computer
Operate one or more of a variety of office machines, such as photocopying, photographic, and duplicating machines, or other office machines. Excludes "Computer Operators" (43-9011), "Mail Clerks and Mail Machine Operators" (43-9051) and "Billing and Posting Clerks and Machine Operators" (43-3021).

Illustrative Examples: Check Embosser; Coin Wrapping Machine Operator; Copy Machine Operator

43-9080 Proofreaders and Copy Markers

This broad occupation is the same as the detailed occupation:
43-9081 Proofreaders and Copy Markers

43-9081 Proofreaders and Copy Markers
Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors. Excludes workers whose primary duty is editing copy. Includes proofreaders of Braille.

Illustrative Example: Copy Reader

43-9110 Statistical Assistants
This broad occupation is the same as the detailed occupation:
43-9111 Statistical Assistants

43-9111 Statistical Assistants
Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Includes actuarial clerks.

Illustrative Examples: Tabulating Clerk; Compiler; Data Technician

43-9190 Miscellaneous Office and Administrative Support Workers
This broad occupation is the same as the detailed occupation:
43-9199 Office and Administrative Support Workers, All Other

43-9199 Office and Administrative Support Workers, All Other
All office and administrative support workers not listed separately.

Illustrative Examples: Notary Public; Envelope Stuffer

45-0000 FARMING, FISHING, AND FORESTRY OCCUPATIONS

45-1000 SUPERVISORS, FARMING, FISHING, AND FORESTRY WORKERS

45-1010 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers

This broad occupation contains the following two detailed occupations:
45-1011 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
45-1012 Farm Labor Contractors

45-1011 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers. Excludes "First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers" (37-1012).

Illustrative Examples: Christmas Tree Farm Manager; Harvest Crew Supervisor; Fish Hatchery Supervisor

45-1012 Farm Labor Contractors
Recruit, hire, furnish, and supervise seasonal or temporary agricultural laborers for a fee. May transport, house, and provide meals for workers.

Illustrative Example: Harvesting Contractor

45-2000 AGRICULTURAL WORKERS

45-2010 Agricultural Inspectors

This broad occupation is the same as the detailed occupation:
45-2011 Agricultural Inspectors

45-2011 Agricultural Inspectors
Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.

Illustrative Examples: Cattle Examiner; Meat Grader; Grain Sampler

45-2020 Animal Breeders

This broad occupation is the same as the detailed occupation:
45-2021 Animal Breeders

45-2021 Animal Breeders

Breed animals, including cattle, goats, horses, sheep, swine, poultry, dogs, cats, or pet birds. Select and breed animals according to their genealogy, characteristics, and offspring. May require a knowledge of artificial insemination techniques and equipment use. May involve keeping records on heats, birth intervals, or pedigree. Excludes "Nonfarm Animal Caretakers" (39-2021) who may occasionally breed animals as part of their other caretaking duties. Excludes "Animal Scientists" (19-1011) whose primary function is research.

Illustrative Examples: Artificial Inseminator; Chicken Fancier; Horse Breeder

45-2040 Graders and Sorters, Agricultural Products

This broad occupation is the same as the detailed occupation:
45-2041 Graders and Sorters, Agricultural Products

45-2041 Graders and Sorters, Agricultural Products

Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition. Excludes "Agricultural Inspectors" (45-2011).

Illustrative Examples: Chicken Grader; Cotton Classer; Fruit Sorter

45-2090 Miscellaneous Agricultural Workers

This broad occupation includes the following four detailed occupations:
45-2091 Agricultural Equipment Operators
45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse
45-2093 Farmworkers, Farm and Ranch Animals
45-2099 Agricultural Workers, All Other

45-2091 Agricultural Equipment Operators

Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform post-harvest tasks, such as husking, shelling, threshing, and ginning.

Illustrative Examples: Baler; Combine Operator; Tractor Driver

45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse
Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; cleaning, grading, sorting, packing and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Excludes "Graders and Sorters, Agricultural Products" (45-2041). Excludes "Forest, Conservation, and Logging Workers" (45-4011 through 45-4029).

Illustrative Examples: Apple Picker; Tobacco Cutter; Vegetable Loader

45-2093 Farmworkers, Farm and Ranch Animals
Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Includes workers who shear wool from sheep, and collect eggs in hatcheries.

Illustrative Examples: Horse Groomer; Beekeeper; Livestock Feeder

45-2099 Agricultural Workers, All Other
All agricultural workers not listed separately.

Illustrative Examples: Irrigation Worker; Livestock Showman

45-3000 FISHING AND HUNTING WORKERS

45-3010 Fishers and Related Fishing Workers
This broad occupation is the same as the detailed occupation:
45-3011 Fishers and Related Fishing Workers

45-3011 Fishers and Related Fishing Workers
Use nets, fishing rods, traps, or other equipment to catch and gather fish or other aquatic animals from rivers, lakes, or oceans, for human consumption or

other uses. May haul game onto ship. Includes aquacultural laborers who work on fish farms with "Agricultural Workers, All Other" (45-2099).

Illustrative Examples: Fishing Boat Captain; Crabber; Seaweed Harvester

45-3020 Hunters and Trappers

This broad occupation is the same as the detailed occupation:
45-3021 Hunters and Trappers

45-3021 Hunters and Trappers
Hunt and trap wild animals for human consumption, fur, feed, bait, or other purposes.

Illustrative Examples: Predatory Animal Exterminator; Bird Trapper

45-4000 FOREST, CONSERVATION, AND LOGGING WORKERS

45-4010 Forest and Conservation Workers

This broad occupation is the same as the detailed occupation:
45-4011 Forest and Conservation Workers

45-4011 Forest and Conservation Workers
Under supervision, perform manual labor necessary to develop, maintain, or protect forest, forested areas, and woodlands through such activities as raising and transporting tree seedlings; combating insects, pests, and diseases harmful to trees; and building erosion and water control structures and leaching of forest soil. Includes forester aides, seedling pullers, and tree planters.

Illustrative Examples: Christmas Tree Farm Worker; Seedling Puller; Forestry Laborer

45-4020 Logging Workers

This broad occupation includes the following four detailed occupations:
45-4021 Fallers
45-4022 Logging Equipment Operators
45-4023 Log Graders and Scalers
45-4029 Logging Workers, All Other

45-4021 Fallers
Use axes or chainsaws to fell trees using knowledge of tree characteristics and cutting techniques to control direction of fall and minimize tree damage.

Illustrative Examples: Cross Cut Sawyer; Lumberjack; Timber Cutter

45-4022 Logging Equipment Operators
Drive logging tractor or wheeled vehicle equipped with one or more accessories, such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree; to skid, load, unload, or stack logs; or to pull stumps or clear brush.

Illustrative Examples: Log Hauler; Logging Tractor Operator; Skidder Driver

45-4023 Log Graders and Scalers
Grade logs or estimate the marketable content or value of logs or pulpwood in sorting yards, millpond, log deck, or similar locations. Inspect logs for defects or measure logs to determine volume. Excludes "Purchasing Agents and Buyers, Farm Products" (13-1021).

Illustrative Examples: Timber Estimator; Landing Scaler

45-4029 Logging Workers, All Other
All logging workers not listed separately.

Illustrative Examples: Barker; Cable Hooker; Rigging Slinger

47-0000 CONSTRUCTION AND EXTRACTION OCCUPATIONS

47-1000 SUPERVISORS, CONSTRUCTION AND EXTRACTION WORKERS

47-1010 First-Line Supervisors/Managers of Construction Trades and Extraction Workers

This broad occupation is the same as the detailed occupation:
47-1011 First-Line Supervisors/Managers of Construction Trades and Extraction Workers

47-1011 First-Line Supervisors/Managers of Construction Trades and Extraction Workers
Directly supervise and coordinate activities of construction or extraction workers.

Illustrative Examples: Cement Contractor; Quarry Boss

47-2000 CONSTRUCTION TRADES WORKERS

47-2010 Boilermakers

This broad occupation is the same as the detailed occupation:
47-2011 Boilermakers

47-2011 Boilermakers
Construct, assemble, maintain, and repair stationary steam boilers and boiler house auxiliaries. Align structures or plate sections to assemble boiler frame tanks or vats, following blueprints. Work involves use of hand and power tools, plumb bobs, levels, wedges, dogs, or turnbuckles. Assist in testing assembled vessels. Direct cleaning of boilers and boiler furnaces. Inspect and repair boiler fittings, such as safety valves, regulators, automatic-control mechanisms, water columns, and auxiliary machines.

Illustrative Examples: Boiler Installer; Boiler Mechanic; Pressure Tester

47-2020 Brickmasons, Blockmasons, and Stonemasons

This broad occupation includes the following two detailed occupations:
47-2021 Brickmasons and Blockmasons
47-2022 Stonemasons

47-2021 Brickmasons and Blockmasons

Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures. Excludes "Stonemasons" (47-2022). Classify installers of mortarless segmental concrete masonry wall units in "Landscaping and Groundskeeping Workers" (37-3011).

Illustrative Examples: Adobe Layer; Chimney Builder; Furnace Liner

47-2022 Stonemasons

Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.

Illustrative Examples: Granite Setter; Monument Installer; Rock Mason

47-2030 Carpenters

This broad occupation is the same as the detailed occupation:
47-2031 Carpenters

47-2031 Carpenters

Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Includes brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places.

Illustrative Examples: Shipwright; Cabinetmaker; Wood Floor Layer

47-2040 Carpet, Floor, and Tile Installers and Finishers

This broad occupation includes the following four detailed occupations:
47-2041 Carpet Installers
47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles
47-2043 Floor Sanders and Finishers
47-2044 Tile and Marble Setters

47-2041 Carpet Installers

Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials. Excludes "Floor Layers, Except Carpet, Wood, and Hard Tiles" (47-2042).

Illustrative Examples: Floor Coverer; Rug Layer

47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles

Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors.

Illustrative Examples: Composition Floor Setter; Linoleum Layer; Soft Tile Setter

47-2043 Floor Sanders and Finishers

Scrape and sand wooden floors to smooth surfaces using floor scraper and floor sanding machine, and apply coats of finish.

Illustrative Examples: Floor Sanding Machine Operator; Floor Surfacer; Hardwood Finisher

47-2044 Tile and Marble Setters

Apply hard tile, marble, and wood tile to walls, floors, ceilings, and roof decks.

Illustrative Examples: Ceramic Tile Installer; Hard Tile Setter; Marble Installer

47-2050 Cement Masons, Concrete Finishers, and Terrazzo Workers

This broad occupation includes the following two detailed occupations:
47-2051 Cement Masons and Concrete Finishers
47-2053 Terrazzo Workers and Finishers

47-2051 Cement Masons and Concrete Finishers
Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; use saws to cut expansion joints. Classify installers of mortarless segmental concrete masonry wall units in "Landscaping and Groundskeeping Workers. (37-3011).

Illustrative Examples: Curb Builder; Concrete Floor Installer

47-2053 Terrazzo Workers and Finishers
Apply a mixture of cement, sand, pigment, or marble chips to floors, stairways, and cabinet fixtures to fashion durable and decorative surfaces.

Illustrative Example: Artificial Marble Worker

47-2060 Construction Laborers

This broad occupation is the same as the detailed occupation:
47-2061 Construction Laborers

47-2061 Construction Laborers
Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, clean up rubble and debris, and remove asbestos, lead, and other hazardous waste materials. May assist other craft workers. Excludes construction laborers who primarily assist a particular craft worker, and classify them under "Helpers, Construction Trades" (47-3011 through 47-3016).

Illustrative Examples: Air Hammer Operator; Asphalt Patcher; Construction Craft Laborer

47-2070 Construction Equipment Operators

This broad occupation includes the following three detailed occupations:
47-2071 Paving, Surfacing, and Tamping Equipment Operators
47-2072 Pile-Drive Operators
47-2073 Operating Engineers and Other Construction Equipment Operators

47-2071 Paving, Surfacing, and Tamping Equipment Operators
Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials. Includes concrete and asphalt paving machine operators, form tampers, tamping machine operators, and stone spreader operators.

Illustrative Examples: Asphalt Spreader Operator; Black Top Machine Operator; Road Grader

47-2072 Pile-Driver Operators
Operate pile drivers mounted on skids, barges, crawler treads, or locomotive cranes to drive pilings for retaining walls, bulkheads, and foundations of structures, such as buildings, bridges, and piers.

Illustrative Examples: Nozzle Operator; Pile Driver Engineer

47-2073 Operating Engineers and Other Construction Equipment Operators
Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties. Excludes "Crane and Tower Operators" (53-7021) and equipment operators who work in extraction or other non-construction industries.

Illustrative Examples: Bulldozer Operator; Power Grader Operator; Steam Shovel Operator

47-2080 Drywall Installers, Ceiling Tile Installers, and Tapers
This broad occupation includes the following two detailed occupations:
47-2081 Drywall and Ceiling Tile Installers
47-2082 Tapers

47-2081 Drywall and Ceiling Tile Installers
Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Includes lathers who fasten wooden, metal, or rockboard lath to walls, ceilings or partitions of buildings to provide support

base for plaster, fire-proofing, or acoustical material. Excludes "Carpet Installers" (47-2041), "Carpenters" (47-2031), and "Tile and Marble Setters" (47-2044).

Illustrative Examples: Acoustical Carpenter; Lather; Sheet Rock Hanger

47-2082 Tapers
Seal joints between plasterboard or other wallboard to prepare wall surface for painting or papering.

Illustrative Examples: Sheet Rock Taper; Wall Taper

47-2110 Electricians
This broad occupation is the same as the detailed occupation:
47-2111 Electricians

47-2111 Electricians
Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Excludes "Security and Fire Alarm Systems Installers" (49-2098).

Illustrative Examples: Electrical Sign Servicer; House Wirer; Chief Electrician

47-2120 Glaziers
This broad occupation is the same as the detailed occupation:
47-2121 Glaziers

47-2121 Glaziers
Install glass in windows, skylights, store fronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops.

Illustrative Examples: Window Glass Installer; Plate Glass Installer; Stained Glass Glazier

47-2130 Insulation Workers
This broad occupation includes the following two detailed occupations:
47-2131 Insulation Workers, Floor, Ceiling, and Wall
47-2132 Insulation Workers, Mechanical

47-2131 Insulation Workers, Floor, Ceiling, and Wall
Line and cover structures with insulating materials. May work with batt, roll, or blown insulation materials.

Illustrative Examples: Composition Weatherboard Installer; Fiberglass Insulation Installer; Insulation Blower

47-2132 Insulation Workers, Mechanical
Apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.

Illustrative Examples: Boiler Coverer; Pipe Coverer

47-2140 Painters and Paperhangers

This broad occupation includes the following two detailed occupations:
47-2141 Painters, Construction and Maintenance
47-2142 Paperhangers

47-2141 Painters, Construction and Maintenance
Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency. Excludes "Paperhangers" (47-2142).

Illustrative Examples: Bridge Painter; Traffic Line Painter; House Painter

47-2142 Paperhangers
Cover interior walls and ceilings of rooms with decorative wallpaper or fabric, or attach advertising posters on surfaces, such as walls and billboards. Duties include removing old materials from surface to be papered.

Illustrative Examples: Billboard Poster; Wallpaperer

47-2150 Pipelayers, Plumbers, Pipefitters, and Steamfitters

This broad occupation includes the following two detailed occupations:
47-2151 Pipelayers
47-2152 Plumbers, Pipefitters, and Steamfitters

47-2151 Pipelayers
Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any

combination of the following tasks: grade trenches or culverts, position pipe, or seal joints. Excludes "Welders, Cutters, Solderers, and Brazers" (51-4121).

Illustrative Examples: Trench Pipe Layer; Pipe Liner; Sewer Connector

47-2152 Plumbers, Pipefitters, and Steamfitters
Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems.

Illustrative Examples: Gas Line Installer; Hot Water Heater Installer; Sprinkling System Installer

47-2160 Plasterers and Stucco Masons

This broad occupation is the same as the detailed occupation:
47-2161 Plasterers and Stucco Masons

47-2161 Plasterers and Stucco Masons
Apply interior or exterior plaster, cement, stucco, or similar materials. May also set ornamental plaster.

Illustrative Examples: Dry Plasterer; Stucco Worker; Ornamental Plasterer

47-2170 Reinforcing Iron and Rebar Workers

This broad occupation is the same as the detailed occupation:
47-2171 Reinforcing Iron and Rebar Workers

47-2171 Reinforcing Iron and Rebar Workers
Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Includes rod busters.

Illustrative Examples: Reinforcing Rod Layer; Rod Buster; Steel Tier

47-2180 Roofers

This broad occupation is the same as the detailed occupation:
47-2181 Roofers

47-2181 Roofers
Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, and related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

Illustrative Examples: Slater; Hot Tar Roofer; Terra Cotta Roofer

47-2210 Sheet Metal Workers
This broad occupation is the same as the detailed occupation:
47-2211 Sheet Metal Workers

47-2211 Sheet Metal Workers
Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; inspecting, assembling, and smoothing seams and joints of burred surfaces. Includes sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes.

Illustrative Examples: Duct Installer, Metal Work; Tinsmith

47-2220 Structural Iron and Steel Workers
This broad occupation is the same as the detailed occupation:
47-2221 Structural Iron and Steel Workers

47-2221 Structural Iron and Steel Workers
Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. Excludes "Reinforcing Iron and Rebar Workers" (47-2171).

Illustrative Examples: Bolter; Guard Rail Installer; Construction Ironworker

47-3000 HELPERS, CONSTRUCTION TRADES

47-3010 HELPERS, CONSTRUCTION TRADES

This broad occupation includes the following seven detailed occupations:
47-3011 Helpers-Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters
47-3012 Helpers-Carpenters
47-3013 Helpers-Electricians
47-3014 Helpers-Painters, Paperhangers, Plasterers, and Stucco Masons
47-3015 Helpers-Pipelayers, Plumbers, Pipefitters, and Steamfitters
47-3016 Helpers-Roofers
47-3019 Helpers, Construction Trades, All Other

47-3011 Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters

Help brickmasons, blockmasons, stonemasons, or tile and marble setters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Excludes construction laborers who do not primarily assist brickmasons, blockmasons, and stonemasons or tile and marble setters, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Brick Carrier; Brick Washer; Tile Layers Helper

47-3012 Helpers—Carpenters

Help carpenters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Excludes construction laborers who do not primarily assist carpenters, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Carpenter's Mate; Joiner's Helper; Cabinetmakers Helper

47-3013 Helpers—Electricians

Help electricians by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate skilled con-

struction trade occupation (47-2011 through 47-2221). Excludes construction laborers who do not primarily assist electricians, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Utilities Ground Worker; Electrician's Assistant

47-3014 Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons
Help painters, paperhangers, plasterers, or stucco masons by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Excludes construction laborers who do not primarily assist painters, paperhangers, plasterers, or stucco masons, and classify them under "Construction Laborers" (47-2061).

Illustrative Example: Plaster Tender

47-3015 Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters
Help plumbers, pipefitters, steamfitters, or pipelayers by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Excludes construction laborers who do not primarily assist plumbers, pipefitters, steamfitters, or pipelayers, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Pipe Cutter; Plumbers Assistant; Water Main Installers Helper

47-3016 Helpers—Roofers
Help roofers by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Excludes construction laborers who do not primarily assist roofers, and classify them under "Construction Laborers" (47-2061).

Illustrative Example: Roofer's Assistant

47-3019 Helpers, Construction Trades, All Other
All construction trades helpers not listed separately.

Illustrative Examples: Cement Mixer; Glazier's Helper; Surveyor Helper

47-4000 OTHER CONSTRUCTION AND RELATED WORKERS

47-4010 Construction and Building Inspectors

This broad occupation is the same as the detailed occupation:
47-4011 Construction and Building Inspectors

47-4011 Construction and Building Inspectors
Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

Illustrative Examples: Highway Inspector; Electrical Inspector; Architectural Inspector

47-4020 Elevator Installers and Repairers

This broad occupation is the same as the detailed occupation:
47-4021 Elevator Installers and Repairers

47-4021 Elevator Installers and Repairers
Assemble, install, repair, or maintain electric or hydraulic freight or passenger elevators, escalators, or dumbwaiters.

Illustrative Examples: Escalator Installer; Elevator Mechanic; Hydraulic Elevator Constructor

47-4030 Fence Erectors

This broad occupation is the same as the detailed occupation:
47-4031 Fence Erectors

47-4031 Fence Erectors
Erect and repair metal and wooden fences and fence gates around highways, industrial establishments, residences, or farms, using hand and power tools.

Illustrative Examples: Wire Fence Builder; Wood Fence Installer

47-4040 Hazardous Materials Removal Workers

This broad occupation is the same as the detailed occupation:
47-4041 Hazardous Materials Removal Workers

47-4041 Hazardous Materials Removal Workers

Identify, remove, pack, transport, or dispose of hazardous materials, including asbestos, lead-based paint, waste oil, fuel, transmission fluid, radioactive materials, contaminated soil, etc. Specialized training and certification in hazardous materials handling or a confined entry permit are generally required. May operate earth-moving equipment or trucks.

Illustrative Examples: Asbestos Remover; Irradiated Fuel Handler; Hazardous Waste Remover

47-4050 Highway Maintenance Workers

This broad occupation is the same as the detailed occupation:
47-4051 Highway Maintenance Workers

47-4051 Highway Maintenance Workers

Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway. Excludes "Tree Trimmers and Pruners" (37-3013).

Illustrative Examples: Snow Plow Operator; Road Patcher; Road Sign Installer

47-4060 Rail-Track Laying and Maintenance Equipment Operators

This broad occupation is the same as the detailed occupation:
47-4061 Rail-Track Laying and Maintenance Equipment Operators

47-4061 Rail-Track Laying and Maintenance Equipment Operators

Lay, repair, and maintain track for standard or narrow-gauge railroad equipment used in regular railroad service or in plant yards, quarries, sand and gravel pits, and mines. Includes ballast cleaning machine operators and railroad bed tamping machine operators.

Illustrative Examples: Ballast Cleaning Machine Operator; Track Surfacing Machine Operator; Track Dresser

47-4070 Septic Tank Servicers and Sewer Pipe Cleaners

This broad occupation is the same as the detailed occupation:
47-4071 Septic Tank Servicers and Sewer Pipe Cleaners

47-4071 Septic Tank Servicers and Sewer Pipe Cleaners
Clean and repair septic tanks, sewer lines, or drains. May patch walls and partitions of tank, replace damaged drain tile, or repair breaks in underground piping.

Illustrative Examples: Sewage Screen Operator; Septic Tank Cleaner; Electric Sewer Cleaning Machine Operator

47-4090 Miscellaneous Construction and Related Workers

This broad occupation includes the following two detailed occupations:
47-4091 Segmental Pavers
47-4099 Construction and Related Workers, All Other

47-4091 Segmental Pavers
Lay out, cut, and paste segmental paving units. Includes installers of bedding and restraining materials for the paving units.

Illustrative Examples: Concrete Paver Installer; Interlocking Concrete Pavement Installer

47-4099 Construction and Related Workers, All Other
All construction and related workers not listed separately.

Illustrative Examples: Aluminum Pool Installer; Building Wrecker; Waterproofer

47-5000 EXTRACTION WORKERS

47-5010 Derrick, Rotary Drill, and Service Unit Operators, Oil, Gas, and Mining

This broad occupation includes the following three detailed occupations:
47-5011 Derrick Operators, Oil and Gas
47-5012 Rotary Drill Operators, Oil and Gas
47-5013 Service Unit Operators, Oil, Gas, and Mining

47-5011 Derrick Operators, Oil and Gas
Rig derrick equipment and operate pumps to circulate mud through drill hole.

Illustrative Examples: Rotary Derrick Operator; Well Service Derrick Worker

47-5012 Rotary Drill Operators, Oil and Gas
Set up or operate a variety of drills to remove petroleum products from the earth and to find and remove core samples for testing during oil and gas exploration.

Illustrative Examples: Cable Tool Operator; Core Driller; Well Driller

47-5013 Service Unit Operators, Oil, Gas, and Mining
Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. May also perform similar services in mining exploration operations. Includes fishing-tool technicians.

Illustrative Examples: Fishing Tool Operator; Well Cleaner

47-5020 Earth Drillers, Except Oil and Gas

This broad occupation is the same as the detailed occupation:
47-5021 Earth Drillers, Except Oil and Gas

47-5021 Earth Drillers, Except Oil and Gas
Operate a variety of drills—such as rotary, churn, and pneumatic—to tap subsurface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use explosives. Includes horizontal and earth boring machine operators.

Illustrative Examples: Auger Operator; Earth Boring Machine Operator; Tunneling Machine Operator

47-5030 Explosives Workers, Ordnance Handling Experts, and Blasters

This broad occupation is the same as the detailed occupation:
47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters

47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters
Place and detonate explosives to demolish structures or to loosen, remove, or displace earth, rock, or other materials. May perform specialized handling, storage, and accounting procedures. Includes seismograph shooters. Excludes "Earth Drillers, Except Oil and Gas" (47-5021) who may also work with explosives.

Illustrative Examples: Dynamiter; Explosives Expert; Blast Setter

47-5040 Mining Machine Operators

This broad occupation includes the following three detailed occupations:
47-5041 Continuous Mining Machine Operators
47-5042 Mine Cutting and Channeling Machine Operators
47-5049 Mining Machine Operators, All Other

47-5041 Continuous Mining Machine Operators
Operate self-propelled mining machines that rip coal, metal and nonmetal ores, rock, stone, or sand from the face and load it onto conveyors or into shuttle cars in a continuous operation.

47-5042 Mine Cutting and Channeling Machine Operators
Operate machinery—such as longwall shears, plows, and cutting machines—to cut or channel along the face or seams of coal mines, stone quarries, or other mining surfaces to facilitate blasting, separating, or removing minerals or materials from mines or from the earth's surface. Includes shale planers.

Illustrative Examples: Coal Cutter; Long Wall Mining Machine Tender; Shale Planer Operator

47-5049 Mining Machine Operators, All Other
All mining machine operators not listed separately.

Illustrative Examples: Extraction Machine Operator; Hydraulic Operator; Rock Duster

47-5050 Rock Splitters, Quarry

This broad occupation is the same as the detailed occupation:
47-5051 Rock Splitters, Quarry

47-5051 Rock Splitters, Quarry
Separate blocks of rough dimension stone from quarry mass using jackhammer and wedges.

Illustrative Examples: Quarry Plug and Feather Driller; Rock Breaker

47-5060 Roof Bolters, Mining

This broad occupation is the same as the detailed occupation:
47-5061 Roof Bolters, Mining

47-5061 Roof Bolters, Mining
Operate machinery to install roof support bolts in underground mine.

47-5070 Roustabouts, Oil and Gas

This broad occupation is the same as the detailed occupation:
47-5071 Roustabouts, Oil and Gas

47-5071 Roustabouts, Oil and Gas
Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.

Illustrative Examples: Connection Worker; Oil Field Laborer

47-5080 Helpers—Extraction Workers

This broad occupation is the same as the detailed occupation:
47-5081 Helpers—Extraction Workers

47-5081 Helpers—Extraction Workers
Help extraction craft workers, such as earth drillers, blasters and explosives workers, derrick operators, and mining machine operators, by performing duties of lesser skill. Duties include supplying equipment or cleaning work area. Excludes apprentice workers and report them with the appropriate extraction trade occupation (47-5011 through 47-5099).

Illustrative Examples: Blasters Helper; Tunnel Mucker; Mining Helper

47-5090 Miscellaneous Extraction Workers

This broad occupation is the same as the detailed occupation:
47-5099 Extraction Workers, All Other

47-5099 Extraction Workers, All Other

All extraction workers not listed separately.

Illustrative Examples: Chute Operator; Coal Digger; Sandfill Operator

49-0000 INSTALLATION, MAINTENANCE, AND REPAIR OCCUPATIONS

49-1000 SUPERVISORS OF INSTALLATION, MAINTENANCE, AND REPAIR WORKERS

49-1010 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers

This broad occupation is the same as the detailed occupation:
49-1011 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers

49-1011 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
Supervise and coordinate the activities of mechanics, installers, and repairers. Excludes team or work leaders.

Illustrative Examples: Marine Service Manager; Ground Crew Chief; Engine Repair Supervisor

49-2000 ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS

49-2010 Computer, Automated Teller, and Office Machine Repairers

This broad occupation is the same as the detailed occupation:
49-2011 Computer, Automated Teller, and Office Machine Repairers

49-2011 Computer, Automated Teller, and Office Machine Repairers
Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines.

Illustrative Examples: ATM Specialist; Cash Register Servicer; Computer Installer

49-2020 Radio and Telecommunications Equipment Installers and Repairers

This broad occupation includes the following two detailed occupations:
49-2021 Radio Mechanics
49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers

49-2021 Radio Mechanics

Test or repair mobile or stationary radio transmitting and receiving equipment and two-way radio communications systems used in ship-to-shore communications and found in service and emergency vehicles.

Illustrative Examples: Radio Electrician; Radio Rigger

49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers

Set-up, rearrange, or remove switching and dialing equipment used in central offices. Service or repair telephones and other communication equipment on customers' property. May install equipment in new locations or install wiring and telephone jacks in buildings under construction.

Illustrative Examples: Central Office Equipment Installer; Electronics Installer; Exchange Mechanic

49-2090 Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers

This broad occupation includes the following eight detailed occupations:
49-2091 Avionics Technicians
49-2092 Electric Motor, Power Tool, and Related Repairers
49-2093 Electrical and Electronics Installers and Repairers, Transportation Equipment
49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles
49-2097 Electronic Home Entertainment Equipment Installers and Repairers
49-2098 Security and Fire Alarm Systems Installers

49-2091 Avionics Technicians
Install, inspect, test, adjust, or repair avionics equipment, such as radar, radio, navigation, and missile control systems in aircraft or space vehicles.

Illustrative Examples: Aircraft Electrician; Automatic Pilot Mechanic; Missile Facilities Repairer

49-2092 Electric Motor, Power Tool, and Related Repairers
Repair, maintain, or install electric motors, wiring, or switches.

Illustrative Examples: Armature Winder; Generator Mechanic; Electric Golf Cart Repairer

49-2093 Electrical and Electronics Installers and Repairers, Transportation Equipment
Install, adjust, or maintain mobile electronics communication equipment, including sound, sonar, security, navigation, and surveillance systems on trains, watercraft, or other mobile equipment. Excludes "Avionics Technicians" (49-2091) and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

Illustrative Example: Locomotive Electrician

49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment
Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas. Excludes "Avionics Technicians" (49-2091), "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096), and "Electrical and Electronics Installers and Repairers, Transportation Equipment" (49-2093).

Illustrative Examples: Missile Pad Mechanic; Radar Technician; Amplifier Mechanic

49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
Inspect, test, repair, or maintain electrical equipment in generating stations, substations, and in-service relays.

Illustrative Examples: Powerhouse Electrician; Relay Technician; Power Transformer Repairer

49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles
Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.

Illustrative Examples: Auto Phone Installer; Automotive Electrician

49-2097 Electronic Home Entertainment Equipment Installers and Repairers
Repair, adjust, or install audio or television receivers, stereo systems, camcorders, video systems, or other electronic home entertainment equipment.

Illustrative Examples: Electric Organ Technician; Television Mechanic; Satellite Dish Installer

49-2098 Security and Fire Alarm Systems Installers
Install, program, maintain, and repair security and fire alarm wiring and equipment. Ensure that work is in accordance with relevant codes. Excludes "Electricians" (47-2111) who do a broad range of electrical wiring.

Illustrative Examples: Fire Alarm Installer; Burglar Alarm Mechanic

49-3000 VEHICLE AND MOBILE EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS

49-3010 Aircraft Mechanics and Service Technicians

This broad occupation is the same as the detailed occupation:
49-3011 Aircraft Mechanics and Service Technicians

49-3011 Aircraft Mechanics and Service Technicians
Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists. Excludes "Avionics Technician" (49-2091).

Illustrative Examples: Aircraft Engine Specialist; Flight Test Mechanic; Airframe Mechanic

49-3020 Automotive Technicians and Repairers

This broad occupation includes the following three detailed occupations:
49-3021 Automotive Body and Related Repairers
49-3022 Automotive Glass Installers and Repairers
49-3023 Automotive Service Technicians and Mechanics

49-3021 Automotive Body and Related Repairers

Repair and refinish automotive vehicle bodies and straighten vehicle frames. Excludes "Painters, Transportation Equipment" (51-9122) and "Automotive Glass Installers and Repairers" (49-3022).

Illustrative Examples: Auto Body Customizer; Collision Mechanic; Frame Straightener

49-3022 Automotive Glass Installers and Repairers

Replace or repair broken windshields and window glass in motor vehicles.

Illustrative Examples: Auto Glass Mechanic; Windshield Installer; Auto Glass Fitter

49-3023 Automotive Service Technicians and Mechanics

Diagnose, adjust, repair, or overhaul automotive vehicles. Excludes "Automotive Body and Related Repairers" (49-3021), "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031), and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

Illustrative Examples: Auto Brake Mechanic; Fuel Injection Servicer; Auto Transmission Specialist

49-3030 Bus and Truck Mechanics and Diesel Engine Specialists

This broad occupation is the same as the detailed occupation:
49-3031 Bus and Truck Mechanics and Diesel Engine Specialists

49-3031 Bus and Truck Mechanics and Diesel Engine Specialists

Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Includes mechanics working primarily with automobile diesel engines.

Illustrative Examples: Tractor Trailer Mechanic; Diesel Mechanic; Farm Equipment Engine Mechanic

49-3040 Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics

This broad occupation includes the following three detailed occupations:
49-3041 Farm Equipment Mechanics
49-3042 Mobile Heavy Equipment Mechanics, Except Engines
49-3043 Rail Car Repairers

49-3041 Farm Equipment Mechanics

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Excludes "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Illustrative Examples: Irrigation Equipment Mechanic; Dairy Equipment Installer

49-3042 Mobile Heavy Equipment Mechanics, Except Engines

Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Excludes "Rail Car Repairers" (49-3043) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Illustrative Examples: Construction Equipment Mechanic; Fork Lift Mechanic; Bulldozer Mechanic

49-3043 Rail Car Repairers

Diagnose, adjust, repair, or overhaul railroad rolling stock, mine cars, or mass transit rail cars. Excludes "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Illustrative Examples: Streetcar Repairer; Mine Car Mechanic

49-3050 Small Engine Mechanics

This broad occupation includes the following three detailed occupations:
49-3051 Motorboat Mechanics
49-3052 Motorcycle Mechanics
49-3053 Outdoor Power Equipment and Other Small Engine Mechanics

49-3051 Motorboat Mechanics

Repair and adjust electrical and mechanical equipment of gasoline or diesel powered inboard or inboard-outboard boat engines. Excludes "Diesel Engine Specialists" (49-3031).

Illustrative Example: Outboard Motor Mechanic

49-3052 Motorcycle Mechanics
Diagnose, adjust, repair, or overhaul motorcycles, scooters, mopeds, dirt bikes, or similar motorized vehicles.

Illustrative Examples: Motor Scooter Mechanic; Motorcycle Repairer

49-3053 Outdoor Power Equipment and Other Small Engine Mechanics
Diagnose, adjust, repair, or overhaul small engines used to power lawn mowers, chain saws, and related equipment.

Illustrative Examples: Chainsaw Mechanic; Lawn Mower Repairer; Snowmobile Mechanic

49-3090 Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers

This broad occupation includes the following three detailed occupations:
49-3091 Bicycle Repairers
49-3092 Recreational Vehicle Service Technicians
49-3093 Tire Repairers and Changers

49-3091 Bicycle Repairers
Repair and service bicycles.

Illustrative Example: Bicycle Mechanic

49-3092 Recreational Vehicle Service Technicians
Diagnose, inspect, adjust, repair, or overhaul recreational vehicles including travel trailers. May specialize in maintaining gas, electrical, hydraulic, plumbing, or chassis/towing systems as well as repairing generators, appliances, and interior components. Includes workers who perform customized van conversions. Excludes "Automotive Service Technicians and Mechanics" (49-3023) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031) who also work on recreation vehicles.

Illustrative Example: RV Mechanic

49-3093 Tire Repairers and Changers
Repair and replace tires.

Illustrative Examples: Tire Balancer; Tire Fixer

49-9000 OTHER INSTALLATION, MAINTENANCE, AND REPAIR OCCUPATIONS

49-9010 Control and Valve Installers and Repairers

This broad occupation includes the following two detailed occupations:
49-9011 Mechanical Door Repairers
49-9012 Control and Valve Installers and Repairers, Except Mechanical Door

49-9011 Mechanical Door Repairers

Install, service, or repair opening and closing mechanisms of automatic doors and hydraulic door closers. Includes garage door mechanics.

Illustrative Example: Automatic Door Mechanic

49-9012 Control and Valve Installers and Repairers, Except Mechanical Door

Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors.

Illustrative Examples: Electric Meter Installer; Gas Meter Prover; Thermostat Repairer

49-9020 Heating, Air Conditioning, and Refrigeration Mechanics and Installers

This broad occupation is the same as the detailed occupation:
49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers

49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.

Illustrative Examples: Furnace Converter; Gas Furnace Installer; Oil Burner Repairer

49-9030 Home Appliance Repairers

This broad occupation is the same as the detailed occupation:
49-9031 Home Appliance Repairers

49-9031 Home Appliance Repairers

Repair, adjust, or install all types of electric or gas household appliances, such as refrigerators, washers, dryers, and ovens.

Illustrative Examples: Window Air Conditioner Mechanic; Vacuum Cleaner Repairer; Washing Machine Installer

49-9040 Industrial Machinery Installation, Repair, and Maintenance Workers

This broad occupation includes the following five detailed occupations:
49-9041 Industrial Machinery Mechanics
49-9042 Maintenance and Repair Workers, General
49-9043 Maintenance Workers, Machinery
49-9044 Millwrights
49-9045 Refractory Materials Repairers, Except Brickmasons

49-9041 Industrial Machinery Mechanics

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. Excludes "Millwrights" (49-9044), "Mobile Heavy Equipment Mechanics, Except Engines" (49-3042), and "Maintenance Workers, Machinery" (49-9043) who perform only routine tasks.

Illustrative Examples: Conveyor Belt Installer; Turbine Mechanic; Hydroelectric Machinery Mechanic

49-9042 Maintenance and Repair Workers, General

Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. Excludes "Maintenance Workers, Machinery" (49-9043).

Illustrative Examples: Building Maintenance Repairer; Trouble Shooting Mechanic; Mechanical Adjuster

49-9043 Maintenance Workers, Machinery
Lubricate machinery, change parts, or perform other routine machinery maintenance. Excludes "Maintenance and Repair Workers, General" (49-9042).

Illustrative Examples: Belt Repairer; Grease Packer Machine Oiler

49-9044 Millwrights
Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.

Illustrative Examples: Machine Erector; Machine Rigger; Machinery Dismantler

49-9045 Refractory Materials Repairers, Except Brickmasons
Build or repair furnaces, kilns, cupolas, boilers, converters, ladles, soaking pits, ovens, etc., using refractory materials.

Illustrative Examples: Bondactor Machine Operator; Kiln Door Repairer

49-9050 Line Installers and Repairers

This broad occupation includes the following two detailed occupations:
49-9051 Electrical Power-Line Installers and Repairers
49-9052 Telecommunications Line Installers and Repairers

49-9051 Electrical Power-Line Installers and Repairers
Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers. Excludes "Electrical and Electronics Repairers, Powerhouse, Substation, and Relay" (49-2095).

Illustrative Examples: Pole Climber; High Tension Tester; Electric Utility Wire Stretcher

49-9052 Telecommunications Line Installers and Repairers
String and repair telephone and television cable, including fiber optics and other equipment for transmitting messages or television programming.

Illustrative Examples: Telecommunications Cable Splicer; Telecommunications Wire Stretcher; Cable Television Installer

49-9060 Precision Instrument and Equipment Repairers

This broad occupation includes the following five detailed occupations:
49-9061 Camera and Photographic Equipment Repairers
49-9062 Medical Equipment Repairers
49-9063 Musical Instrument Repairers and Tuners
49-9064 Watch Repairers
49-9069 Precision Instrument and Equipment Repairers, All Other

49-9061 Camera and Photographic Equipment Repairers

Repair and adjust cameras and photographic equipment, including commercial video and motion picture camera equipment.

Illustrative Examples: Camera Machinist; Photographic Equipment Technician

49-9062 Medical Equipment Repairers

Test, adjust, or repair biomedical or electromedical equipment.

Illustrative Examples: Biomedical Equipment Technician; Hearing Aid Mechanic; Surgical Instrument Mechanic

49-9063 Musical Instrument Repairers and Tuners

Repair percussion, stringed, reed, or wind instruments. May specialize in one area, such as piano tuning. Excludes "Electronic Home Entertainment Equipment Installers and Repairers" (49-2097) who repair electrical and electronic musical instruments.

Illustrative Examples: Piano Tuner; Violin Repairer; Tone Regulator

49-9064 Watch Repairers

Repair, clean, and adjust mechanisms of timing instruments, such as watches and clocks. Includes watchmakers.

Illustrative Examples: Watch and Clock Crowner; Horologist; Watchmaker

49-9069 Precision Instrument and Equipment Repairers, All Other

All precision instrument and equipment repairers not listed separately.

Illustrative Examples: Laboratory Equipment Installer; Gyro Mechanic; Meteorological Equipment Repairer

49-9090 Miscellaneous Installation, Maintenance, and Repair Workers

This broad occupation includes the following nine detailed occupations:
49-9091 Coin, Vending, and Amusement Machine Servicers and Repairers
49-9092 Commercial Divers
49-9093 Fabric Menders, Except Garment
49-9094 Locksmiths and Safe Repairers
49-9095 Manufactured Building and Mobile Home Installers
49-9096 Riggers
49-9097 Signal and Track Switch Repairers
49-9098 Helpers-Installation, Maintenance, and Repair Workers
49-9099 Installation, Maintenance, and Repair Workers, All Other

49-9091 Coin, Vending, and Amusement Machine Servicers and Repairers

Install, service, adjust, or repair coin, vending, or amusement machines including video games, juke boxes, pinball machines, or slot machines.

Illustrative Examples: Cigarette Machine Mechanic; Slot Machine Mechanic; Video Game Mechanic

49-9092 Commercial Divers

Work below surface of water, using scuba gear to inspect, repair, remove, or install equipment and structures. May use a variety of power and hand tools, such as drills, sledgehammers, torches, and welding equipment. May conduct tests or experiments, rig explosives, or photograph structures or marine life. Excludes "Fishers and Related Fishing Workers" (45-3011), "Athletes and Sports Competitors" (27-2021), and "Police and Sheriff's Patrol Officers" (33-3051).

Illustrative Examples: Marine Diver; Scuba Diver; Skin Diver

49-9093 Fabric Menders, Except Garment

Repair tears, holes, and other defects in fabrics, such as draperies, linens, parachutes, and tents.

Illustrative Examples: Canvas Repairer; Bag Repairer; Seat Mender

49-9094 Locksmiths and Safe Repairers

Repair and open locks; make keys; change locks and safe combinations; and install and repair safes.

Illustrative Examples: Key Maker; Vault Service Mechanic; Lock Expert

49-9095 Manufactured Building and Mobile Home Installers
Move or install mobile homes or prefabricated buildings.

Illustrative Examples: Mobile Home Mechanic; Housetrailer Servicer

49-9096 Riggers
Set up or repair rigging for construction projects, manufacturing plants, logging yards, ships and shipyards, or for the entertainment industry.

Illustrative Examples: Acrobatic Rigger; Rigging Slinger; Yard Rigger

49-9097 Signal and Track Switch Repairers
Install, inspect, test, maintain, or repair electric gate crossings, signals, signal equipment, track switches, section lines, or intercommunications systems within a railroad system.

Illustrative Examples: Signal Mechanic; Signal Maintainer; Third Rail Installer

49-9098 Helpers—Installation, Maintenance, and Repair Workers
Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties, such as furnishing tools, materials, and supplies to other workers; cleaning work area, machines, and tools; and holding materials or tools for other workers.

Illustrative Examples: Mechanic's Helper; Diver's Helper; Blacksmith's Helper

49-9099 Installation, Maintenance, and Repair Workers, All Other
All mechanical, installation, and repair workers and helpers not listed separately.

Illustrative Examples: Blacksmith; Cooper; Gunsmith

51-0000 PRODUCTION OCCUPATIONS

51-1000 SUPERVISORS, PRODUCTION WORKERS

51-1010 First-Line Supervisors/Managers of Production and Operating Workers

This broad occupation is the same as the detailed occupation:
51-1011 First-Line Supervisors/Managers of Production and Operating Workers

51-1011 First-Line Supervisors/Managers of Production and Operating Workers
Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders.

Illustrative Examples: Laundromat Manager; Station Chief; Assembly Line Supervisor

51-2000 ASSEMBLERS AND FABRICATORS

51-2010 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

This broad occupation is the same as the detailed occupation:
51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
Assemble, fit, fasten, and install parts of airplanes, space vehicles, or missiles, such as tails, wings, fuselage, bulkheads, stabilizers, landing gear, rigging and control equipment, or heating and ventilating systems.

Illustrative Examples: Aircraft Riveter; Fuselage Framer; Skin Installer

51-2020 Electrical, Electronics, and Electromechanical Assemblers

This broad occupation includes the following three detailed occupations:
51-2021 Coil Winders, Tapers, and Finishers

51-2022 Electrical and Electronic Equipment Assemblers
51-2023 Electromechanical Equipment Assemblers

51-2021 Coil Winders, Tapers, and Finishers
Wind wire coils used in electrical components, such as resistors and transformers, and in electrical equipment and instruments, such as field cores, bobbins, armature cores, electrical motors, generators, and control equipment.

Illustrative Examples: Coil Builder; Motor Winder; Wire Coiler

51-2022 Electrical and Electronic Equipment Assemblers
Assemble or modify electrical or electronic equipment, such as computers, test equipment telemetering systems, electric motors, and batteries.

Illustrative Examples: Anode Builder; Battery Builder; Industrial Equipment Wirer

51-2023 Electromechanical Equipment Assemblers
Assemble or modify electromechanical equipment or devices, such as servomechanisms, gyros, dynamometers, magnetic drums, tape drives, brakes, control linkage, actuators, and appliances.

Illustrative Examples: Appliance Assembler; Vending Machine Assembler

51-2030 Engine and Other Machine Assemblers

This broad occupation is the same as the detailed occupation:
51-2031 Engine and Other Machine Assemblers

51-2031 Engine and Other Machine Assemblers
Construct, assemble, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing.

Illustrative Examples: Machine Builder; Motor Installer; Turbine Assembler

51-2040 Structural Metal Fabricators and Fitters

This broad occupation is the same as the detailed occupation:
51-2041 Structural Metal Fabricators and Fitters

51-2041 Structural Metal Fabricators and Fitters
Fabricate, lay out, position, align, and fit parts of structural metal products.

Illustrative Examples: Manufacturing Ornamental Metal Worker; Metal Box Maker; Protector Plate Attacher

51-2090 Miscellaneous Assemblers and Fabricators

This broad occupation includes the following four detailed occupations:
51-2091 Fiberglass Laminators and Fabricators
51-2092 Team Assemblers
51-2093 Timing Device Assemblers, Adjusters, and Calibrators
51-2099 Assemblers and Fabricators, All Other

51-2091 Fiberglass Laminators and Fabricators
Laminate layers of fiberglass on molds to form boat decks and hulls, bodies for golf carts, automobiles, or other products.

Illustrative Examples: Fiberglass Ski Maker; Fiberglass Boat Builder; Golf Cart Maker

51-2092 Team Assemblers
Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included. Excludes assemblers (51-2011 through 51-2099) who continuously perform the same task.

51-2093 Timing Device Assemblers, Adjusters, and Calibrators
Perform precision assembling or adjusting, within narrow tolerances, of timing devices, such as watches, clocks, or chronometers. Excludes "Watch Repairers" (49-9064).

Illustrative Examples: Chronometer Assembler; Hair Spring Truer; Escapement Matcher

51-2099 Assemblers and Fabricators, All Other
All assemblers and fabricators not listed separately.

Illustrative Examples: Barrel Raiser; Automobile Assembler, except engines; Doll Maker

51-3000 FOOD PROCESSING WORKERS

51-3010 Bakers

This broad occupation is the same as the detailed occupation:
51-3011 Bakers

51-3011 Bakers

Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods. Includes pastry chefs in restaurants and hotels with "Chefs and Head Cooks" (35-1011).

Illustrative Examples: Cake Maker; Head Baker; Pastry Finisher

51-3020 Butchers and Other Meat, Poultry, and Fish Processing Workers

This broad occupation includes the following three detailed occupations: 51-3021 Butchers and Meat Cutters
51-3022 Meat, Poultry, and Fish Cutters and Trimmers
51-3023 Slaughterers and Meat Packers

51-3021 Butchers and Meat Cutters

Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.

Illustrative Examples: Carver; Meat Department Manager; Cleaver

51-3022 Meat, Poultry, and Fish Cutters and Trimmers

Use hand tools to perform routine cutting and trimming of meat, poultry, and fish.

Illustrative Examples: Calf Skinner; Eviscerator; Filleter

51-3023 Slaughterers and Meat Packers

Work in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. Excludes "Meat, Poultry, and Fish Cutters and Trimmers" (51-3022) who perform routine, lower-skilled meat cutting.

Illustrative Examples: Hog Sticker; Shactor; Beef Splitter

51-3090 Miscellaneous Food Processing Workers

This broad occupation includes the following three detailed occupations:
51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
51-3092 Food Batchmakers
51-3093 Food Cooking Machine Operators and Tenders

51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
Operate or tend food or tobacco roasting, baking, or drying equipment, including hearth ovens, kiln driers, roasters, char kilns, and vacuum drying equipment.

Illustrative Examples: Coffee Roaster; Smokehouse Worker; Curing Room Worker

51-3092 Food Batchmakers
Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Includes candy makers and cheese makers.

Illustrative Examples: Candy Maker; Honey Blender; Peanut Butter Maker

51-3093 Food Cooking Machine Operators and Tenders
Operate or tend cooking equipment, such as steam cooking vats, deep fry cookers, pressure cookers, kettles, and boilers, to prepare food products. Excludes "Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders" (51-3091).

Illustrative Examples: Doughnut Maker; Sausage Cooker; Potato Chip Fryer

51-4000 METAL WORKERS AND PLASTIC WORKERS

51-4010 Computer Control Programmers and Operators

This broad occupation includes the following two detailed occupations:
51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic
51-4012 Numerical Tool and Process Control Programmers

51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic
Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

Illustrative Examples: Numerical Control Machine Operator; Robot Operator

51-4012 Numerical Tool and Process Control Programmers
Develop programs to control machining or processing of parts by automatic machine tools, equipment, or systems.

Illustrative Examples: Tool Programmer; NC Programmer

51-4020 Forming Machine Setters, Operators, and Tenders, Metal and Plastic

This broad occupation includes the following three detailed occupations:
51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4022 Forging Machine Setters, Operators, and Tenders, Metal and Plastic
51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic

51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend machines to extrude or draw thermoplastic or metal materials into tubes, rods, hoses, wire, bars, or structural shapes.

Illustrative Examples: Draw Bench Operator; Tube Drawer; Wire Drawing Setter

51-4022 Forging Machine Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend forging machines to taper, shape, or form metal or plastic parts.

Illustrative Examples: Cold Header Operator; Swager Operator; Drop Hammer Operator

51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend machines to roll steel or plastic forming bends, beads, knurls, rolls, or plate or to flatten, temper, or reduce gauge of material.

Illustrative Examples: Forming Roll Operator; Rolling Mill Operator; Tubing Machine Operator

51-4030 Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic

This broad occupation includes the following five detailed occupations:
51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4035 Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic

51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

Illustrative Examples: Perforator Operator; Crimping Machine Operator; Four Slide Machine Setter

51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend drilling machines to drill, bore, ream, mill, or countersink metal or plastic work pieces.

Illustrative Examples: Drill Press Operator; Jewel Cupping Machine Operator; Reaming Press Operator

51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend grinding and related tools that remove excess material or burrs from surfaces, sharpen edges or corners, or buff, hone, or polish metal or plastic work pieces.

Illustrative Examples: Barrel Polisher; Jewel Bearing Facer; Metal Filer

51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend lathe and turning machines to turn, bore, thread, form, or face metal or plastic materials, such as wire, rod, or bar stock.

Illustrative Examples: Gear Cutter; Screw Machine Operator; Threading Machine Setter

51-4035 Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend milling or planing machines to mill, plane, shape, groove, or profile metal or plastic work pieces.

Illustrative Examples: Broaching Machine Operator; Profiler Operator; Scribing Machine Operator

51-4040 Machinists
This broad occupation is the same as the detailed occupation:
51-4041 Machinists

51-4041 Machinists
Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.

Illustrative Examples: Electrical Instrument Maker; Machine Fitter

51-4050 Metal Furnace and Kiln Operators and Tenders
This broad occupation includes the following two detailed occupations:
51-4051 Metal-Refining Furnace Operators and Tenders
51-4052 Pourers and Casters, Metal

51-4051 Metal-Refining Furnace Operators and Tenders
Operate or tend furnaces, such as gas, oil, coal, electric-arc or electric induction, open-hearth, or oxygen furnaces, to melt and refine metal before casting

or to produce specified types of steel. Excludes "Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic" (51-4191).

Illustrative Examples: Blast Furnace Blower; Bessemer Regulator; Smelter

51-4052 Pourers and Casters, Metal
Operate hand-controlled mechanisms to pour and regulate the flow of molten metal into molds to produce castings or ingots.

Illustrative Examples: Ingot Header; Ladle Operator; Steel Pourer

51-4060 Model Makers and Patternmakers, Metal and Plastic

This broad occupation includes the following two detailed occupations:
51-4061 Model Makers, Metal and Plastic
51-4062 Patternmakers, Metal and Plastic

51-4061 Model Makers, Metal and Plastic
Set up and operate machines, such as lathes, milling and engraving machines, and jig borers to make working models of metal or plastic objects. Includes template makers.

Illustrative Examples: Jig and Fixture Builder; Mandrel Maker; Mock Up Maker

51-4062 Patternmakers, Metal and Plastic
Lay out, machine, fit, and assemble castings and parts to metal or plastic foundry patterns, core boxes, or match plates.

Illustrative Examples: Pattern Fitter; Stencil Cutter

51-4070 Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic

This broad occupation includes the following two detailed occupations:
51-4071 Foundry Mold and Coremakers
51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic

51-4071 Foundry Mold and Coremakers
Make or form wax or sand cores or molds used in the production of metal castings in foundries.

Illustrative Examples: Core Setter; Mold Closer; Dry Sand Molder

51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend metal or plastic molding, casting, or coremaking machines to mold or cast metal or thermoplastic parts or products.

Illustrative Examples: Centrifugal Casting Machine Operator; Injection Molding Machine Setter; Core Mounter

51-4080 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
This broad occupation is the same as the detailed occupation:
51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic

51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

Illustrative Examples: Machine Tool Operator; Combination Machine Tool Setter; Metal and Plastic Transfer Machine Operator

51-4110 Tool and Die Makers
This broad occupation is the same as the detailed occupation:
51-4111 Tool and Die Makers

51-4111 Tool and Die Makers
Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.

Illustrative Examples: Die Sinker; Die Finisher; Sawsmith

51-4120 Welding, Soldering, and Brazing Workers

This broad occupation includes the following two detailed occupations:
51-4121 Welders, Cutters, Solderers, and Brazers
51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

51-4121 Welders, Cutters, Solderers, and Brazers

Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

Illustrative Examples: Acetylene Burner; Arc Welder; Blow Torch Operator

51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

Set up, operate, or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products, components, or assemblies. Includes workers who operate laser cutters or laser-beam machines.

Illustrative Examples: Electron Beam Welder Setter; Laser-Beam Machine Operator; Ultrasonic Welding Machine Operator

51-4190 Miscellaneous Metalworkers and Plastic Workers

This broad occupation includes the following five detailed occupations:
51-4191 Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
51-4192 Lay-Out Workers, Metal and Plastic
51-4193 Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
51-4194 Tool Grinders, Filers, and Sharpeners
51-4199 Metalworkers and Plastic Workers, All Other

51-4191 Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend heating equipment, such as heat-treating furnaces, flame-hardening machines, induction machines, soaking pits, or vacuum equipment to temper, harden, anneal, or heat-treat metal or plastic objects.

Illustrative Examples: Metal & Plastic Annealer; Metal & Plastic Temperer; Induction Machine Setter

51-4192 Lay-Out Workers, Metal and Plastic
Lay out reference points and dimensions on metal or plastic stock or workpieces, such as sheets, plates, tubes, structural shapes, castings, or machine parts, for further processing. Includes shipfitters.

Illustrative Examples: Pattern Setter; Location and Measurement Technician

51-4193 Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
Set up, operate, or tend plating or coating machines to coat metal or plastic products with chromium, zinc, copper, cadmium, nickel, or other metal to protect or decorate surfaces. Includes electrolytic processes.

Illustrative Examples: Anodizer; Electroplater; Galvanizer

51-4194 Tool Grinders, Filers, and Sharpeners
Perform precision smoothing, sharpening, polishing, or grinding of metal objects.

Illustrative Examples: Die Polisher; Precision Honer; Tool Maintenance Worker

51-4199 Metal Workers and Plastic Workers, All Other
All metalworkers and plastic workers not listed separately.

Illustrative Examples: Balancing Machine Operator; Film Casting Operator; Nail Making Machine Setter

51-5000 PRINTING WORKERS

51-5010 Bookbinders and Bindery Workers
This broad occupation includes the following two detailed occupations:
51-5011 Bindery Workers
51-5012 Bookbinders

51-5011 Bindery Workers
Set up or operate binding machines that produce books and other printed materials. Includes hand bindery workers. Excludes "Bookbinders" (51-5012).

Illustrative Examples: Book Coverer; Stitching Machine Operator; Bookbinding Machine Operator

51-5012 Bookbinders
Perform highly skilled hand finishing operations, such as grooving and lettering to bind books.

Illustrative Examples: Book Finisher; Book Mender

51-5020 Printers

This broad occupation includes the following three detailed occupations:
51-5021 Job Printers
51-5022 Prepress Technicians and Workers
51-5023 Printing Machine Operators

51-5021 Job Printers
Set type according to copy; operate press to print job order; and read proof for errors and clarity of impression, and correct imperfections. Job printers are often found in small establishments where work combines several job skills.

Illustrative Examples: Job Press Operator; Apprentice Job Printer

51-5022 Prepress Technicians and Workers
Set up and prepare material for printing presses. Includes prepress functions, such as compositing, typesetting, layout, paste-up, camera operating, scanning, film stripping, and photoengraving.

Illustrative Examples: Compositor; Lithographer; Photoengraving Etcher

51-5023 Printing Machine Operators
Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.

Illustrative Examples: Bag Printer; Offset Press Operator; Lithoplate Maker

51-6000 TEXTILE, APPAREL, AND FURNISHINGS WORKERS

51-6010 Laundry and Dry-Cleaning Workers

This broad occupation is the same as the detailed occupation:
51-6011 Laundry and Dry-Cleaning Workers

51-6011 Laundry and Dry-Cleaning Workers
Operate or tend washing or dry-cleaning machines to wash or dry-clean industrial or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, fine linens, rugs, and carpets. Includes spotters and dyers of these articles.

Illustrative Examples: Laundry Carpet Cleaner; Silk Spotter; Washing Machine Operator

51-6020 Pressers, Textile, Garment, and Related Materials

This broad occupation is the same as the detailed occupation:
51-6021 Pressers, Textile, Garment, and Related Materials

51-6021 Pressers, Textile, Garment, and Related Materials
Press or shape articles by hand or machine.

Illustrative Examples: Clothes Ironer; Garment Steamer; Steam Operator

51-6030 Sewing Machine Operators

This broad occupation is the same as the detailed occupation:
51-6031 Sewing Machine Operators

51-6031 Sewing Machine Operators
Operate or tend sewing machines to join, reinforce, decorate, or perform related sewing operations in the manufacture of garment or nongarment products.

Illustrative Examples: Blind Stitch Machine Operator; Loop Tacker; Hemmer

51-6040 Shoe and Leather Workers

This broad occupation includes the following two detailed occupations:
51-6041 Shoe and Leather Workers and Repairers
51-6042 Shoe Machine Operators and Tenders

51-6041 Shoe and Leather Workers and Repairers
Construct, decorate, or repair leather and leather-like products, such as luggage, shoes, and saddles.

Illustrative Examples: Upper Cutter; Cobbler; Saddle Maker

51-6042 Shoe Machine Operators and Tenders
Operate or tend a variety of machines to join, decorate, reinforce, or finish shoes and shoe parts.

Illustrative Examples: Counter Maker; Lasting Machine Operator; Shoe Archer

51-6050 Tailors, Dressmakers, and Sewers

This broad occupation includes the following two detailed occupations:
51-6051 Sewers, Hand
51-6052 Tailors, Dressmakers, and Custom Sewers

51-6051 Sewers, Hand
Sew, join, reinforce, or finish, usually with needle and thread, a variety of manufactured items. Includes weavers and stitchers. Excludes "Fabric Menders, Except Garment" (49-9093).

Illustrative Examples: Hand Stitcher; Hand Weaver; Hosiery Mender

51-6052 Tailors, Dressmakers, and Custom Sewers
Design, make, alter, repair, or fit garments.

Illustrative Examples: Coat Maker; Hand Finisher, Except Toys Shop Tailor

51-6060 Textile Machine Setters, Operators, and Tenders

This broad occupation includes the following four detailed occupations:
51-6061 Textile Bleaching and Dyeing Machine Operators and Tenders
51-6062 Textile Cutting Machine Setters, Operators, and Tenders
51-6063 Textile Knitting and Weaving Machine Setters, Operators, and Tenders
51-6064 Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders

51-6061 Textile Bleaching and Dyeing Machine Operators and Tenders
Operate or tend machines to bleach, shrink, wash, dye, or finish textiles or synthetic or glass fibers.

Illustrative Examples: Bleach Range Operator; Rug Dyer; Skein Yarn Dyer

51-6062 Textile Cutting Machine Setters, Operators, and Tenders
Set up, operate, or tend machines that cut textiles.

Illustrative Examples: Canvas Cutter; Rag Shredder; Welt Trimming Machine Operator

51-6063 Textile Knitting and Weaving Machine Setters, Operators, and Tenders
Set up, operate, or tend machines that knit, loop, weave, or draw in textiles. Excludes "Sewing Machine Operators" (51-6031).

Illustrative Examples: Crochet Machine Operator; Ribbing Machine Operator; Looping Machine Operator

51-6064 Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders
Set up, operate, or tend machines that wind or twist textiles; or draw out and combine sliver, such as wool, hemp, or synthetic fibers. Includes slubber machine and drawing frame operators.

Illustrative Examples: Beamer Operator; Bobbin Doffer; Frame Tender

51-6090 Miscellaneous Textile, Apparel, and Furnishings Workers
This broad occupation includes the following four detailed occupations:
51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers
51-6092 Fabric and Apparel Patternmakers
51-6093 Upholsterers
51-6099 Textile, Apparel, and Furnishings Workers, All Other

51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers
Set up, operate, or tend machines that extrude and form continuous filaments from synthetic materials, such as liquid polymer, rayon, and fiberglass.

Illustrative Examples: Fiber Machine Tender; Box Spinner; Synthetic Filament Spinner

51-6092 Fabric and Apparel Patternmakers
Draw and construct sets of precision master fabric patterns or layouts. May also mark and cut fabrics and apparel.

Illustrative Examples: Pattern Grader; Shoe Patternmaker

51-6093 Upholsterers
Make, repair, or replace upholstery for household furniture or transportation vehicles.

Illustrative Examples: Car Seat Maker; Casket Coverer; Auto Top Mechanic

51-6099 Textile, Apparel, and Furnishings Workers, All Other
All textile, apparel, and furnishings workers not listed separately.

Illustrative Examples: Napper; Carding Machine Operator; Mercerizer

51-7000 WOODWORKERS

51-7010 Cabinetmakers and Bench Carpenters
This broad occupation is the same as the detailed occupation:
51-7011 Cabinetmakers and Bench Carpenters

51-7011 Cabinetmakers and Bench Carpenters
Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products. Excludes "Woodworking Machine Setters, Operators, and Tenders" (51-7041 through 51-7042) who specialize in one or a limited number of machine phases.

Illustrative Examples: Marquetry Worker; Antique Furniture Repairer; Wood Machinist

51-7020 Furniture Finishers
This broad occupation is the same as the detailed occupation:
51-7021 Furniture Finishers

51-7021 Furniture Finishers
Shape, finish, and refinish damaged, worn, or used furniture or new high-grade furniture to specified color or finish.

Illustrative Examples: Furniture Polisher; Refinisher; Wood Grainer

51-7030 Model Makers and Patternmakers, Wood

This broad occupation includes the following two detailed occupations:
51-7031 Model Makers, Wood
51-7032 Patternmakers, Wood

51-7031 Model Makers, Wood
Construct full-size and scale wooden precision models of products. Includes wood jig builders and loft workers.

Illustrative Examples: Wood Jig Builder; Loft Worker

51-7032 Patternmakers, Wood
Plan, lay out, and construct wooden unit or sectional patterns used in forming sand molds for castings.

Illustrative Examples: Experimental Wood Mechanic; Wood Die Maker

51-7040 Woodworking Machine Setters, Operators, and Tenders

This broad occupation includes the following two detailed occupations:
51-7041 Sawing Machine Setters, Operators, and Tenders, Wood
51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing

51-7041 Sawing Machine Setters, Operators, and Tenders, Wood
Set up, operate, or tend wood sawing machines. Includes head sawyers.

Illustrative Examples: Crozer Operator; Sawyer; Wood Cutter

51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing
Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines.

Illustrative Examples: Frazer; Molding Sander

51-7090 Miscellaneous Woodworkers

This broad occupation is the same as the detailed occupation:
51-7099 Woodworkers, All Other

51-7099 Woodworkers, All Other
All woodworkers not listed separately.

Illustrative Examples: Wood Carver; Pole Framer; Veneer Taper

51-8000 PLANT AND SYSTEM OPERATORS

51-8010 Power Plant Operators, Distributors, and Dispatchers

This broad occupation includes the following three detailed occupations:
51-8011 Nuclear Power Reactor Operators
51-8012 Power Distributors and Dispatchers
51-8013 Power Plant Operators

51-8011 Nuclear Power Reactor Operators
Control nuclear reactors.

Illustrative Examples: Nuclear Reactor Operator; Power Reactor Operator

51-8012 Power Distributors and Dispatchers
Coordinate, regulate, or distribute electricity or steam.

Illustrative Examples: Feeder Switchboard Operator; Electric and Gas Load Dispatcher; Substation Operator

51-8013 Power Plant Operators
Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators. Excludes "Nuclear Power Reactor Operators" (51-8011).

Illustrative Examples: Hydroelectric Operator; Generator Operator; Power House Operator

51-8020 Stationary Engineers and Boiler Operators

This broad occupation is the same as the detailed occupation:
51-8021 Stationary Engineers and Boiler Operators

51-8021 Stationary Engineers and Boiler Operators
Operate or maintain stationary engines, boilers, or other mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment, such as steam engines, generators, motors, turbines, and steam boilers.

Illustrative Examples: Cooling System Operator; Low Pressure Firer; Steam Engineer

51-8030 Water and Liquid Waste Treatment Plant and System Operators

This broad occupation is the same as the detailed occupation:
51-8031 Water and Liquid Waste Treatment Plant and System Operators

51-8031 Water and Liquid Waste Treatment Plant and System Operators
Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or liquid waste.

Illustrative Examples: Disposal Operator; Filtration Plant Operator; Sewage Plant Operator

51-8090 Miscellaneous Plant and System Operators

This broad occupation includes the following four detailed occupations:
51-8091 Chemical Plant and System Operators
51-8092 Gas Plant Operators
51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers
51-8099 Plant and System Operators, All Other

51-8091 Chemical Plant and System Operators
Control or operate an entire chemical process or system of machines.

Illustrative Examples: Denitrator; Nitrogen Operator; Wash Operator

51-8092 Gas Plant Operators
Distribute or process gas for utility companies and others by controlling compressors to maintain specified pressures on main pipelines.

Illustrative Examples: Liquefaction Plant Operator; Pressure Dispatcher

51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers
Control the operation of petroleum refining or processing units. May specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines.

Illustrative Examples: Absorption Plant Operator; Gasoline Plant Operator; Oil Refiner

51-8099 Plant and System Operators, All Other
All plant and system operators not listed separately.

Illustrative Examples: Asphalt Plant Operator; Lime Filter Operator; Incinerator Operator

51-9000 OTHER PRODUCTION OCCUPATIONS

51-9010 Chemical Processing Machine Setters, Operators, and Tenders

This broad occupation includes the following two detailed occupations:
51-9011 Chemical Equipment Operators and Tenders
51-9012 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders

51-9011 Chemical Equipment Operators and Tenders
Operate or tend equipment to control chemical changes or reactions in the processing of industrial or consumer products. Equipment used includes devulcanizers, steam-jacketed kettles, and reactor vessels. Excludes "Chemical Plant and System Operators" (51-8091).

Illustrative Examples: Acetylene Plant Operator; Acid Purifier; Caustic Purification Operator

51-9012 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders
Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a re-

fined product. Includes dairy processing equipment operators. Excludes "Chemical Equipment Operators and Tenders" (51-9011).

Illustrative Examples: Brewmaster; Dairy Processing Equipment Operator; Distiller

51-9020 Crushing, Grinding, Polishing, Mixing, and Blending Workers

This broad occupation includes the following three detailed occupations:
51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders
51-9022 Grinding and Polishing Workers, Hand
51-9023 Mixing and Blending Machine Setters, Operators, and Tenders

51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber.

Illustrative Examples: Beveling and Edging Machine Operator; Pulverizer Operator; Sand Blast Operator, Except Construction

51-9022 Grinding and Polishing Workers, Hand

Grind, sand, or polish, using hand tools or hand-held power tools, a variety of metal, wood, stone, clay, plastic, or glass objects. Includes chippers, buffers, and finishers.

Illustrative Examples: Metal Sander; Gun Barrel Finisher; Hand Buffer

51-9023 Mixing and Blending Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients. Excludes "Food Batchmakers" (51-3092).

Illustrative Examples: Batch Maker; Clay Mixer; Tumbler Tender

51-9030 Cutting Workers

This broad occupation includes the following two detailed occupations:
51-9031 Cutters and Trimmers, Hand
51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders

51-9031 Cutters and Trimmers, Hand

Use hand tools or hand-held power tools to cut and trim a variety of manufactured items, such as carpet, fabric, stone, glass, or rubber.

Illustrative Examples: Buttonhole Maker; Fur Trimmer; Thread Clipper

51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders

Set up, operate, or tend machines that cut or slice materials, such as glass, stone, cork, rubber, tobacco, food, paper, or insulating material. Excludes "Woodworking Machine Setters, Operators, and Tenders" (51-7041 through 51-7042), "Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4031), and "Textile Cutting Machine Setters, Operators, and Tenders" (51-6062).

Illustrative Examples: Bias Machine Operator; Shear Operator; Slate Trimmer

51-9040 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders

This broad occupation is the same as the detailed occupation:
51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders

51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders

Set up, operate, or tend machines, such as glass forming machines, plodder machines, and tuber machines, to shape and form products, such as glassware, food, rubber, soap, brick, tile, clay, wax, tobacco, or cosmetics. Excludes "Paper Goods Machine Setters, Operators, and Tenders" (51-9196) and "Shoe Machine Operators and Tenders" (51-6042).

Illustrative Examples: Briquette Maker; Cigarette Machine Operator; Rubber Laminating Machine Operator

51-9050 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders

This broad occupation is the same as the detailed occupation:
51-9051 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders

51-9051 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
Operate or tend heating equipment other than basic metal, plastic, or food processing equipment. Includes activities, such as annealing glass, drying lumber, curing rubber, removing moisture from materials, or boiling soap.

Illustrative Examples: Brick Baker; Stoker; Tunnel Kiln Operator

51-9060 Inspectors, Testers, Sorters, Samplers, and Weighers

This broad occupation is the same as the detailed occupation:
51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers

51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers
Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.

Illustrative Examples: Bearing Inspector; Quality Checker; Testing and Regulating Technician

51-9070 Jewelers and Precious Stone and Metal Workers

This broad occupation is the same as the detailed occupation:
51-9071 Jewelers and Precious Stone and Metal Workers

51-9071 Jewelers and Precious Stone and Metal Workers
Design, fabricate, adjust, repair, or appraise jewelry, gold, silver, other precious metals, or gems. Includes diamond polishers and gem cutters and persons who perform precision casting and modeling of molds, casting metal in molds, or setting precious and semi-precious stones for jewelry and related products.

Illustrative Examples: Diamond Expert; Gemologist; Goldsmith

51-9080 Medical, Dental, and Ophthalmic Laboratory Technicians

This broad occupation includes the following three detailed occupations:
51-9081 Dental Laboratory Technicians
51-9082 Medical Appliance Technicians
51-9083 Ophthalmic Laboratory Technicians

51-9081 Dental Laboratory Technicians

Construct and repair full or partial dentures or dental appliances. Excludes "Dental Assistants" (31-9091).

Illustrative Examples: Ceramist; Crown and Bridge Technician; Orthodontic Technician

51-9082 Medical Appliance Technicians

Construct, fit, maintain, or repair medical supportive devices, such as braces, artificial limbs, joints, arch supports, and other surgical and medical appliances.

Illustrative Examples: Brace Maker; Orthotics Technician; Prosthetics Technician

51-9083 Ophthalmic Laboratory Technicians

Cut, grind, and polish eyeglasses, contact lenses, or other precision optical elements. Assemble and mount lenses into frames or process other optical elements. Includes precision lens polishers or grinders, centerer-edgers, and lens mounters. Excludes "Opticians, Dispensing" (29-2081).

Illustrative Examples: Eyeglass Maker; Lens Grinder; Spectacle Truer

51-9110 Packaging and Filling Machine Operators and Tenders

This broad occupation is the same as the detailed occupation:
51-9111 Packaging and Filling Machine Operators and Tenders

51-9111 Packaging and Filling Machine Operators and Tenders

Operate or tend machines to prepare industrial or consumer products for storage or shipment. Includes cannery workers who pack food products.

Illustrative Examples: Bottle Caser; Wrapper Layer; Strapping Machine Operator

51-9120 Painting Workers

This broad occupation includes the following three detailed occupations:
51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders
51-9122 Painters, Transportation Equipment
51-9123 Painting, Coating, and Decorating Workers

51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to coat or paint any of a wide variety of products including food, glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials. Excludes "Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4193) and "Painters, Transportation Equipment" (51-9122).

Illustrative Examples: Electrostatic Paint Operator; Silvering Applicator; Supercalender Operator

51-9122 Painters, Transportation Equipment

Operate or tend painting machines to paint surfaces of transportation equipment, such as automobiles, buses, trucks, trains, boats, and airplanes. Includes painters in auto body repair facilities.

Illustrative Examples: Auto Painer; Rust Proofer

51-9123 Painting, Coating, and Decorating Workers

Paint, coat, or decorate articles, such as furniture, glass, plateware, pottery, jewelry, cakes, toys, books, or leather. Excludes "Artists and Related Workers" (27-1011 through 27-1019), "Designers" (27-1021 through 27-1029), "Photographic Process Workers" (51-9131), and "Etchers and Engravers" (51-9194).

Illustrative Examples: Stenciler; Candy Dipper; Mirror Silverer

51-9130 Photographic Process Workers and Processing Machine Operators

This broad occupation includes the following two detailed occupations:
51-9131 Photographic Process Workers
51-9132 Photographic Processing Machine Operators

51-9131 Photographic Process Workers
Perform precision work involved in photographic processing, such as editing photographic negatives and prints, using photo-mechanical, chemical, or computerized methods.

Illustrative Examples: Photographic Colorist; Darkroom Technician; Photo Finisher

51-9132 Photographic Processing Machine Operators
Operate photographic processing machines, such as photographic printing machines, film developing machines, and mounting presses.

Illustrative Examples: Film Printer; Film Processor; Reproduction Machine Loader

51-9140 Semiconductor Processors

This broad occupation is the same as the detailed occupation:
51-9141 Semiconductor Processors

51-9141 Semiconductor Processors
Perform any or all of the following functions in the manufacture of electronic semiconductors: load semiconductor material into furnace; saw formed ingots into segments; load individual segment into crystal growing chamber and monitor controls; locate crystal axis in ingot using x-ray equipment and saw ingots into wafers; clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties.

Illustrative Examples: Circuit Recorder; Crystal Grower; Wafer Machine Operator

51-9190 Miscellaneous Production Workers

This broad occupation includes the following nine detailed occupations:
51-9191 Cementing and Gluing Machine Operators and Tenders
51-9192 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders
51-9193 Cooling and Freezing Equipment Operators and Tenders
51-9194 Etchers and Engravers
51-9195 Molders, Shapers, and Casters, Except Metal and Plastic
51-9196 Paper Goods Machine Setters, Operators, and Tenders
51-9197 Tire Builders
51-9198 Helpers-Production Workers
51-9199 Production Workers, All Other

51-9191 Cementing and Gluing Machine Operators and Tenders

Operate or tend cementing and gluing machines to join items for further processing or to form a completed product. Processes include joining veneer sheets into plywood; gluing paper; joining rubber and rubberized fabric parts, plastic, simulated leather, or other materials. Excludes "Shoe Machine Operators and Tenders" (51-6042).

Illustrative Examples: Bonding Molder; Paper Sealer; Taper Operator

51-9192 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders

Operate or tend machines to wash or clean products, such as barrels or kegs, glass items, tin plate, food, pulp, coal, plastic, or rubber, to remove impurities.

Illustrative Examples: Acid Dipper; Degreaser Operator; Pulp Bleacher

51-9193 Cooling and Freezing Equipment Operators and Tenders

Operate or tend equipment, such as cooling and freezing units, refrigerators, batch freezers, and freezing tunnels, to cool or freeze products, food, blood plasma, and chemicals.

Illustrative Examples: Chiller Tender; Ice Maker; Refrigerating Machine Operator

51-9194 Etchers and Engravers

Engrave or etch metal, wood, rubber, or other materials for identification or decorative purposes. Includes such workers as etcher-circuit processors, panto-

graph engravers, and silk screen etchers. Includes photoengravers with "Prepress Technicians and Workers" (51-5022).

Illustrative Examples: Embosser; Letterer; Siderographer

51-9195 Molders, Shapers, and Casters, Except Metal and Plastic
Mold, shape, form, cast, or carve products such as food products, figurines, tile, pipes, and candles consisting of clay, glass, plaster, concrete, stone, or combinations of materials.

Illustrative Examples: Cigar Roller; Glass Blower; Marble Finisher

51-9196 Paper Goods Machine Setters, Operators, and Tenders
Set up, operate, or tend paper goods machines that perform a variety of functions, such as converting, sawing, corrugating, banding, wrapping, boxing, stitching, forming, or sealing paper or paperboard sheets into products.

Illustrative Examples: Bag Machine Operator; Box Fabricator; Carton Forming Machine Operator

51-9197 Tire Builders
Operate machines to build tires from rubber components.

Illustrative Examples: Retreader; Tire Curer; Tube Builder

51-9198 Helpers—Production Workers
Help production workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Excludes apprentice workers and report them with the appropriate production occupation (51-1011 through 51-9199).

Illustrative Examples: Welder's Assistant; Tailor's Aide; Millwright's Helper

51-9199 Production Workers, All Other
All production workers not listed separately.

Illustrative Examples: Barrel Header; Mop Maker

53-0000 TRANSPORTATION AND MATERIAL MOVING OCCUPATIONS

53-1000 SUPERVISORS, TRANSPORTATION AND MATERIAL MOVING WORKERS

53-1010 Aircraft Cargo Handling Supervisors

This broad occupation is the same as the detailed occupation:
53-1011 Aircraft Cargo Handling Supervisors

53-1011 Aircraft Cargo Handling Supervisors
Direct ground crew in the loading, unloading, securing, and staging of aircraft cargo or baggage. Determine the quantity and orientation of cargo and compute aircraft center of gravity. May accompany aircraft as member of flight crew and monitor and handle cargo in flight, and assist and brief passengers on safety and emergency procedures. Includes loadmasters.

Illustrative Examples: Ramp Boss; Ground Crew Supervisor

53-1020 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand

This broad occupation is the same as the detailed occupation:
53-1021 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand

53-1021 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand
Supervise and coordinate the activities of helpers, laborers, or material movers.

Illustrative Examples: Cargo Supervisor; Yard Supervisor; Warehouse Supervisor

53-1030 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators

This broad occupation is the same as the detailed occupation:
53-1031 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators

53-1031 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators
Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.

Illustrative Examples: Dockmaster; Gas Station Manager; Roadmaster

53-2000 AIR TRANSPORTATION WORKERS

53-2010 Aircraft Pilots and Flight Engineers

This broad occupation includes the following two detailed occupations:
53-2011 Airline Pilots, Copilots, and Flight Engineers
53-2012 Commercial Pilots

53-2011 Airline Pilots, Copilots, and Flight Engineers
Pilot and navigate the flight of multi-engine aircraft in regularly scheduled service for the transport of passengers and cargo. Requires Federal Air Transport rating and certification in specific aircraft type used. Includes aircraft instructors with similar certification.

Illustrative Examples: Airline Captain; First Officer; Flight Navigator

53-2012 Commercial Pilots
Pilot and navigate the flight of small fixed or rotary winged aircraft, primarily for the transport of cargo and passengers. Requires Commercial Rating. Includes aircraft instructors with similar certification.

Illustrative Examples: Crop Duster; Helicopter Pilot; Test Pilot

53-2020 Air Traffic Controllers and Airfield Operations Specialists

This broad occupation includes the following two detailed occupations:
53-2021 Air Traffic Controllers
53-2022 Airfield Operations Specialists

53-2021 Air Traffic Controllers
Control air traffic on and within vicinity of airport and movement of air traffic between altitude sectors and control centers according to established procedures and policies. Authorize, regulate, and control commercial airline flights

according to government or company regulations to expedite and ensure flight safety.

Illustrative Examples: Control Tower Operator; Flight Control Specialist; Flight Dispatcher

53-2022 Airfield Operations Specialists
Ensure the safe takeoff and landing of commercial and military aircraft. Duties include coordination between air-traffic control and maintenance personnel; dispatching; using airfield landing and navigational aids; implementing airfield safety procedures; monitoring and maintaining flight records; and applying knowledge of weather information.

Illustrative Examples: Airfield Manager; Flight Director; Flight Operations Coordinator

53-3000 MOTOR VEHICLE OPERATORS

53-3010 Ambulance Drivers and Attendants, Except Emergency Medical Technicians

This broad occupation is the same as the detailed occupation:
53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians

53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians
Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.

Illustrative Example: Patient Carrier

53-3020 Bus Drivers

This broad occupation includes the following two detailed occupations:
53-3021 Bus Drivers, Transit and Intercity
53-3022 Bus Drivers, School

53-3021 Bus Drivers, Transit and Intercity
Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets.

Illustrative Examples: Motor Coach Operator; Jitney Driver

53-3022 Bus Drivers, School
Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.

53-3030 Driver/Sales Workers and Truck Drivers

This broad occupation includes the following three detailed occupations:
53-3031 Driver/Sales Workers
53-3032 Truck Drivers, Heavy and Tractor-Trailer
53-3033 Truck Drivers, Light or Delivery Services

53-3031 Driver/Sales Workers
Drive truck or other vehicle over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry. May also take orders and collect payments. Includes newspaper delivery drivers. Excludes "Truck Drivers, Light or Delivery Services" (53-3033) and "Coin, Vending, and Amusement Machine Servicers and Repairers" (49-9091).

Illustrative Examples: Bakery Delivery Person; Milk Delivery Person; Bread Distributor

53-3032 Truck Drivers, Heavy and Tractor-Trailer
Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 GVW, to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to unload truck. May require use of automated routing equipment. Requires commercial drivers' license.

Illustrative Examples: Auto Carrier Driver; Cement Truck Driver; Moving Van Driver

53-3033 Truck Drivers, Light or Delivery Services
Drive a truck or van with a capacity of under 26,000 GVW, primarily to deliver or pick up merchandise or to deliver packages within a specified area. May require use of automatic routing or location software. May load and unload truck. Excludes "Couriers and Messengers" (43-5021).

Illustrative Example: Parcel Post Truck Driver

53-3040 Taxi Drivers and Chauffeurs

This broad occupation is the same as the detailed occupation:
53-3041 Taxi Drivers and Chauffeurs

53-3041 Taxi Drivers and Chauffeurs
Drive automobiles, vans, or limousines to transport passengers. May occasionally carry cargo. Includes hearse drivers. Excludes "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011) and "Bus Drivers" (53-3021 through 53-3022).

Illustrative Examples: Cab Driver; Courtesy Van Driver; Limousine Driver

53-3090 Miscellaneous Motor Vehicle Operators

This broad occupation is the same as the detailed occupation:
53-3099 Motor Vehicle Operators, All Other

53-3099 Motor Vehicle Operators, All Other
All motor vehicle operators not listed separately.

Illustrative Examples: Motorcycle Delivery Driver; Assembly Line Driver; Street Cleaning Equipment Operator

53-4000 RAIL TRANSPORTATION WORKERS

53-4010 Locomotive Engineers and Operators

This broad occupation includes the following three detailed occupations:
53-4011 Locomotive Engineers
53-4012 Locomotive Firers
53-4013 Rail Yard Engineers, Dinkey Operators, and Hostlers

53-4011 Locomotive Engineers
Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, electronic or manual signals, and railroad rules and regulations.

Illustrative Examples: Diesel Engineer; Narrow Gauge Operator; Rail Car Operator

53-4012 Locomotive Firers
Monitor locomotive instruments and watch for dragging equipment, obstacles on rights-of-way, and train signals during run. Watch for and relay traffic signals from yard workers to yard engineer in railroad yard.

Illustrative Examples: Assistant Engineer; Railroad Firer

53-4013 Rail Yard Engineers, Dinkey Operators, and Hostlers
Drive switching or other locomotive or dinkey engines within railroad yard, industrial plant, quarry, construction project, or similar location.

Illustrative Examples: Car Mover; Larry Car Operator; Coal Tram Driver

53-4020 Railroad Brake, Signal, and Switch Operators

This broad occupation is the same as the detailed occupation:
53-4021 Railroad Brake, Signal, and Switch Operators

53-4021 Railroad Brake, Signal, and Switch Operators
Operate railroad track switches. Couple or uncouple rolling stock to make up or break up trains. Signal engineers by hand or flagging. May inspect couplings, air hoses, journal boxes, and hand brakes.

Illustrative Examples: Car Hopper; Coupler; Switch Tender

53-4030 Railroad Conductors and Yardmasters

This broad occupation is the same as the detailed occupation:
53-4031 Railroad Conductors and Yardmasters

53-4031 Railroad Conductors and Yardmasters
Conductors coordinate activities of train crew on passenger or freight train. Coordinate activities of switch-engine crew within yard of railroad, industrial plant, or similar location. Yardmasters coordinate activities of workers engaged in railroad traffic operations, such as the makeup or breakup of trains, yard switching, and review train schedules and switching orders.

Illustrative Examples: Car Dispatcher; Roadmaster; Yard Pilot

53-4040 Subway and Streetcar Operators

This broad occupation is the same as the detailed occupation:
53-4041 Subway and Streetcar Operators

53-4041 Subway and Streetcar Operators
Operate subway or elevated suburban train with no separate locomotive, or electric-powered streetcar to transport passengers. May handle fares.

Illustrative Examples: Monorail Operator; Tram Operator; Trolley Operator

53-4090 Miscellaneous Rail Transportation Workers

This broad occupation is the same as the detailed occupation:
53-4099 Rail Transportation Workers, All Other

53-4099 Rail Transportation Workers, All Other
All rail transportation workers not listed separately.

Illustrative Examples: Car Retarder Operator; Ballast Regulator Operator

53-5000 WATER TRANSPORTATION WORKERS

53-5010 Sailors and Marine Oilers

This broad occupation is the same as the detailed occupation:
53-5011 Sailors and Marine Oilers

53-5011 Sailors and Marine Oilers
Stand watch to look for obstructions in path of vessel, measure water depth, turn wheel on bridge, or use emergency equipment as directed by captain, mate, or pilot. Break out, rig, overhaul, and store cargo-handling gear, stationary rigging, and running gear. Perform a variety of maintenance tasks to preserve the painted surface of the ship and to maintain line and ship equipment. Must hold government-issued certification and tankerman certification when working aboard liquid-carrying vessels. Includes able seamen and ordinary seamen.

Illustrative Example: Deckhand

53-5020 Ship and Boat Captains and Operators

This broad occupation includes the following two detailed occupations:
53-5021 Captains, Mates, and Pilots of Water Vessels
53-5022 Motorboat Operators

53-5021 Captains, Mates, and Pilots of Water Vessels
Command or supervise operations of ships and water vessels, such as tugboats and ferryboats, that travel into and out of harbors, estuaries, straits, and sounds and on rivers, lakes, bays, and oceans. Required to hold license issued by U.S. Coast Guard. Excludes "Motorboat Operators" (53-5022).

Illustrative Examples: Barge Captain; Deck Officer; Tugboat Operator

53-5022 Motorboat Operators
Operate small motor-driven boats to carry passengers and freight between ships, or ship to shore. May patrol harbors and beach areas. May assist in navigational activities.

Illustrative Examples: Launch Operator; Speedboat Operator

53-5030 Ship Engineers

This broad occupation is the same as the detailed occupation:
53-5031 Ship Engineers

53-5031 Ship Engineers
Supervise and coordinate activities of crew engaged in operating and maintaining engines, boilers, deck machinery, and electrical, sanitary, and refrigeration equipment aboard ship.

Illustrative Examples: Deck Engineer; Marine Engine Mechanic

53-6000 OTHER TRANSPORTATION WORKERS

53-6010 Bridge and Lock Tenders

This broad occupation is the same as the detailed occupation:
53-6011 Bridge and Lock Tenders

53-6011 Bridge and Lock Tenders
Operate and tend bridges, canal locks, and lighthouses to permit marine pas-

sage on inland waterways, near shores, and at danger points in waterway passages. May supervise such operations. Includes drawbridge operators, lock tenders and operators, and slip bridge operators.

Illustrative Examples: Drawbridge Operator; Lighthouse Keeper; Lock Master

53-6020 Parking Lot Attendants

This broad occupation is the same as the detailed occupation:
53-6021 Parking Lot Attendants

53-6021 Parking Lot Attendants

Park automobiles or issue tickets for customers in a parking lot or garage. May collect fee.

Illustrative Examples: Car Hop; Car Runner; Valet Parker

53-6030 Service Station Attendants

This broad occupation is the same as the detailed occupation:
53-6031 Service Station Attendants

53-6031 Service Station Attendants

Service automobiles, buses, trucks, boats, and other automotive or marine vehicles with fuel, lubricants, and accessories. Collect payment for services and supplies. May lubricate vehicle, change motor oil, install antifreeze, or replace lights or other accessories, such as windshield wiper blades or fan belts. May repair or replace tires.

Illustrative Examples: Filling Station Attendant; Gas and Oil Servicer; Pump Attendant

53-6040 Traffic Technicians

This broad occupation is the same as the detailed occupation:
53-6041 Traffic Technicians

53-6041 Traffic Technicians

Conduct field studies to determine traffic volume, speed, effectiveness of signals, adequacy of lighting, and other factors influencing traffic conditions, under direction of traffic engineer.

Illustrative Example: Traffic Analyst

53-6050 Transportation Inspectors

This broad occupation is the same as the detailed occupation:
53-6051 Transportation Inspectors

53-6051 Transportation Inspectors
Inspect equipment or goods in connection with the safe transport of cargo or people. Includes rail transport inspectors, such as freight inspectors, car inspectors, rail inspectors, and other nonprecision inspectors of other types of transportation vehicles.

Illustrative Examples: Airplane Inspector; Motor Vehicle Examiner; Safety Agent

53-6090 Miscellaneous Transportation Workers

This broad occupation is the same as the detailed occupation:
53-6099 Transportation Workers, All Other

53-6099 Transportation Workers, All Other
All transportation workers not listed separately.

Illustrative Example: Rickshaw Driver

53-7000 MATERIAL MOVING WORKERS

53-7010 Conveyor Operators and Tenders

This broad occupation is the same as the detailed occupation:
53-7011 Conveyor Operators and Tenders

53-7011 Conveyor Operators and Tenders
Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, or vehicles. May control speed and routing of materials or products.

Illustrative Examples: Belt Tender; Grain Elevator Operator

53-7020 Crane and Tower Operators

This broad occupation is the same as the detailed occupation:
53-7021 Crane and Tower Operators

53-7021 Crane and Tower Operators
Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions. Excludes "Excavating and Loading Machine and Dragline Operators" (53-7032).

Illustrative Examples: Boomswing Operator; Cherry Picker Operator; Scrap Drop Operator

53-7030 Dredge, Excavating, and Loading Machine Operators

This broad occupation includes the following three detailed occupations:
53-7031 Dredge Operators
53-7032 Excavating and Loading Machine and Dragline Operators
53-7033 Loading Machine Operators, Underground Mining

53-7031 Dredge Operators
Operate dredge to remove sand, gravel, or other materials from lakes, rivers, or streams; and to excavate and maintain navigable channels in waterways.

Illustrative Example: Dredger

53-7032 Excavating and Loading Machine and Dragline Operators
Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. Excludes "Dredge Operators" (53-7031).

Illustrative Examples: Back Hoe Operator; Payloader Operator; Shovel Operator

53-7033 Loading Machine Operators, Underground Mining
Operate underground loading machine to load coal, ore, or rock into shuttle or mine car or onto conveyors. Loading equipment may include power shovels, hoisting engines equipped with cable-drawn scraper or scoop, or machines equipped with gathering arms and conveyor.

Illustrative Example: Coke Loader

53-7040 Hoist and Winch Operators

This broad occupation is the same as the detailed occupation:
53-7041 Hoist and Winch Operators

53-7041 Hoist and Winch Operators
Operate or tend hoists or winches to lift and pull loads using power-operated cable equipment. Excludes "Crane and Tower Operators" (53-7021).

Illustrative Examples: Derrick Operator; Hydraulic Boom Operator; Well Puller

53-7050 Industrial Truck and Tractor Operators

This broad occupation is the same as the detailed occupation:
53-7051 Industrial Truck and Tractor Operators

53-7051 Industrial Truck and Tractor Operators
Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location. Excludes "Logging Equipment Operators" (45-4022).

Illustrative Examples: Fork Lift Driver; Skidder Operator; Stacker Operator

53-7060 Laborers and Material Movers, Hand

This broad occupation includes the following four detailed occupations:
53-7061 Cleaners of Vehicles and Equipment
53-7062 Laborers and Freight, Stock, and Material Movers, Hand
53-7063 Machine Feeders and Offbearers
53-7064 Packers and Packagers, Hand

53-7061 Cleaners of Vehicles and Equipment
Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses. Excludes "Janitors and Cleaners, Except Maids and Housekeeping Cleaners" (37-2011).

Illustrative Examples: Barrel Washer; Auto Detailer; Machine Cleaner

53-7062 Laborers and Freight, Stock, and Material Movers, Hand
Manually move freight, stock, or other materials or perform other unskilled general labor. Includes all unskilled manual laborers not elsewhere classified. Excludes "Material Moving Workers" (53-7011 through 53-7199) who use power equipment. Excludes "Construction Laborers" (47-2061) and "Construction Trades Helpers" (47-3011 through 47-3019).

Illustrative Examples: Cargo Handler; Stevedore; Truck Loader and Unloader

53-7063 Machine Feeders and Offbearers
Feed materials into or remove materials from machines or equipment that is automatic or tended by other workers.

Illustrative Examples: Hopper Filler; Board Catcher; Doffer

53-7064 Packers and Packagers, Hand
Pack or package by hand a wide variety of products and materials.

Illustrative Examples: Bagger; Boxer; Gift Wrapper

53-7070 Pumping Station Operators

This broad occupation includes the following three detailed occupations:
53-7071 Gas Compressor and Gas Pumping Station Operators
53-7072 Pump Operators, Except Wellhead Pumpers
53-7073 Wellhead Pumpers

53-7071 Gas Compressor and Gas Pumping Station Operators
Operate steam, gas, electric motor, or internal combustion engine driven compressors. Transmit, compress, or recover gases, such as butane, nitrogen, hydrogen, and natural gas.

Illustrative Examples: Gas Booster Engineer; Gas Transfer Operator

53-7072 Pump Operators, Except Wellhead Pumpers
Tend, control, or operate power-driven, stationary, or portable pumps and manifold systems to transfer gases, oil, other liquids, slurries, or powdered materials to and from various vessels and processes.

Illustrative Examples: Brewery Pumper; Main-Line Station Engineer; Oil Pumper

53-7073 Wellhead Pumpers
Operate power pumps and auxiliary equipment to produce flow of oil or gas from wells in oil field.

Illustrative Example: Oil Well Service Operator

53-7080 Refuse and Recyclable Material Collectors

This broad occupation is the same as the detailed occupation:
53-7081 Refuse and Recyclable Material Collectors

53-7081 Refuse and Recyclable Material Collectors
Collect and dump refuse or recyclable materials from containers into truck. May drive truck.

Illustrative Examples: Garbage Collector; Scrap Metal Collector; Trash Collector

53-7110 Shuttle Car Operators

This broad occupation is the same as the detailed occupation:
53-7111 Shuttle Car Operators

53-7111 Shuttle Car Operators
Operate diesel or electric-powered shuttle car in underground mine to transport materials from working face to mine cars or conveyor.

Illustrative Examples: Car Dumper; Cart Driver; Shuttle Buggy Operator

53-7120 Tank Car, Truck, and Ship Loaders

This broad occupation is the same as the detailed occupation:
53-7121 Tank Car, Truck, and Ship Loaders

53-7121 Tank Car, Truck, and Ship Loaders
Load and unload chemicals and bulk solids, such as coal, sand, and grain into or from tank cars, trucks, or ships using material moving equipment. May perform a variety of other tasks relating to shipment of products. May gauge or sample shipping tanks and test them for leaks.

Illustrative Examples: Coal Dumping Equipment Operator; Loader Operator; Spout Tender

53-7190 Miscellaneous Material Moving Workers

This broad occupation is the same as the detailed occupation:
53-7199 Material Moving Workers, All Other

53-7199 Material Moving Workers, All Other

All material moving workers not listed separately.

Illustrative Examples: Elevator Operator; Hand Trucker; Longshore Equipment Operator

55-0000 MILITARY SPECIFIC OCCUPATIONS

55-1000 MILITARY OFFICER SPECIAL AND TACTICAL OPERATIONS LEADERS/MANAGERS

55-1010 Military Officer Special and Tactical Operations Leaders/Managers

This broad occupation includes the following eight detailed occupations:
55-1011 Air Crew Officers
55-1012 Aircraft Launch and Recovery Officers
55-1013 Armored Assault Vehicle Officers
55-1014 Artillery and Missile Officers
55-1015 Command and Control Center Officers
55-1016 Infantry Officers
55-1017 Special Forces Officers
55-1019 Military Officer Special and Tactical Operations Leaders/Managers, All Other

55-1011 Air Crew Officers

Perform and direct in-flight duties to ensure the successful completion of combat, reconnaissance, transport, and search and rescue missions. Duties include operating aircraft communications and radar equipment, such as establishing satellite linkages and jamming enemy communications capabilities; operating aircraft weapons and defensive systems; conducting pre-flight, in-flight, and post-flight inspections of onboard equipment; and directing cargo and personnel drops.

Illustrative Examples: Airborne Antisubmarine Warfare Tactical Coordinator; Airborne Warning and Control Systems Officer

55-1012 Aircraft Launch and Recovery Officers

Plan and direct the operation and maintenance of catapults, arresting gear, and associated mechanical, hydraulic, and control systems involved primarily in aircraft carrier takeoff and landing operations. Duties include supervision of readiness and safety of arresting gear, launching equipment, barricades, and visual landing aid systems; planning and coordinating the design, development, and testing of launch and recovery systems; preparing specifications for catapult and arresting gear installations; evaluating design proposals; determining handling equipment needed for new aircraft; preparing technical data and in-

structions for operation of landing aids; and training personnel in carrier take-off and landing procedures.

Illustrative Examples: Landing Signal Officer; Catapult and Arresting Gear Officer

55-1013 Armored Assault Vehicle Officers
Direct the operation of tanks, light armor, and amphibious assault vehicle units during combat situations on land or in aquatic environments. Duties include directing crew members in the operation of targeting and firing systems; coordinating the operation of advanced onboard communications and navigation equipment; directing the transport of personnel and equipment during combat; formulating and implementing battle plans, including the tactical employment of armored vehicle units; and coordinating with infantry, artillery, and air support units.

Illustrative Examples: Armor Platoon Leader; Cavalry Officer; Assault Amphibious Vehicle Officer

55-1014 Artillery and Missile Officers
Manage personnel and weapons operations to destroy enemy positions, aircraft, and vessels. Duties include planning, targeting, and coordinating the tactical deployment of field artillery and air defense artillery missile systems units; directing the establishment and operation of fire control communications systems; targeting and launching intercontinental ballistic missiles; directing the storage and handling of nuclear munitions and components; overseeing security of weapons storage and launch facilities; and managing maintenance of weapons systems.

Illustrative Examples: Field Artillery Battery Commander; Naval Surface Fire Support Planner; Air Defense Control Officer

55-1015 Command and Control Center Officers
Manage the operation of communications, detection, and weapons systems essential for controlling air, ground, and naval operations. Duties include managing critical communication links between air, naval, and ground forces; formulating and implementing emergency plans for natural and wartime disasters; coordinating emergency response teams and agencies; evaluating command center information and need for high-level military and government reporting; managing the operation of surveillance and detection systems; providing technical information and advice on capabilities and operational readiness; and directing operation of weapons targeting, firing, and launch computer systems.

Illustrative Examples: Combat Information Center Officer; Air Support Control Officer; Combat Control Officer

55-1016 Infantry Officers
Direct, train, and lead infantry units in ground combat operations. Duties include directing deployment of infantry weapons, vehicles, and equipment; directing location, construction, and camouflage of infantry positions and equipment; managing field communications operations; coordinating with armor, artillery, and air support units; performing strategic and tactical planning, including battle plan development; and leading basic reconnaissance operations.

Illustrative Examples: Infantry Unit Commander; Infantry Weapons Officer

55-1017 Special Forces Officers
Lead elite teams that implement unconventional operations by air, land, or sea during combat or peacetime. These activities include offensive raids, demolitions, reconnaissance, search and rescue, and counterterrorism. In addition to their combat training, special forces officers often have specialized training in swimming, diving, parachuting, survival, emergency medicine, and foreign languages. Duties include directing advanced reconnaissance operations and evaluating intelligence information; recruiting, training, and equipping friendly forces; leading raids and invasions on enemy territories; training personnel to implement individual missions and contingency plans; performing strategic and tactical planning for politically sensitive missions; and operating sophisticated communications equipment.

Illustrative Examples: Special Forces Commander; Scuba Marine Officer; Sea-Air-Land Officer (SEAL)

55-1019 Military Officer Special and Tactical Operations Leaders/Managers, All Other
All military officer special and tactical operations leaders/managers not listed separately.

Illustrative Examples: Special Assignment Officer; Joint Specialty Officer; Liaison Officer

55-2000 FIRST-LINE ENLISTED MILITARY SUPERVISOR/MANAGERS

55-2010 First-Line Enlisted Military Supervisors/Managers

This broad occupation includes the following three detailed occupations:
55-2011 First-Line Supervisors/Managers of Air Crew Members
55-2012 First-Line Supervisors/Managers of Weapons Specialists/Crew Members
55-2013 First-Line Supervisors/Managers of All Other Tactical Operations Specialists

55-2011 First-Line Supervisors/Managers of Air Crew Members

Supervise and coordinate the activities of air crew members. Supervisors may also perform the same activities as the workers they supervise.

Illustrative Examples: Airborne Missions Systems Superintendent; In-Flight Refueling Manager

55-2012 First-Line Supervisors/Managers of Weapons Specialists/Crew Members

Supervise and coordinate the activities of weapons specialists/crew members. Supervisors may also perform the same activities as the workers they supervise.

Illustrative Examples: Armor Senior Sergeant; Infantry Unit Leader; Senior Chief Torpedoperson's Mate

55-2013 First-Line Supervisors/Managers of All Other Tactical Operations Specialists

Supervise and coordinate the activities of all other tactical operations specialists not classified separately above. Supervisors may also perform the same activities as the workers they supervise.

Illustrative Examples: Tactical Air Command and Control Manager; Operations Sergeant; Platoon Sergeant

55-3000 MILITARY ENLISTED TACTICAL OPERATIONS AND AIR/WEAPONS SPECIALISTS AND CREW MEMBERS

55-3010 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members

This broad occupation includes the following nine detailed occupations:
55-3011 Air Crew Members
55-3012 Aircraft Launch and Recovery Specialists
55-3013 Armored Assault Vehicle Crew Members
55-3014 Artillery and Missile Crew Members
55-3015 Command and Control Center Specialists
55-3016 Infantry
55-3017 Radar and Sonar Technicians
55-3018 Special Forces
55-3019 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members, All Other

55-3011 Air Crew Members

Perform in-flight duties to ensurethe successful completion of combat, reconnaissance, transport, and search and rescue missions. Duties include operating aircraft communications and detection equipment, including establishing satellite linkages and jamming enemy communications capabilities; conducting preflight, in-flight, and post-flight inspections of onboard equipment; operating and maintaining aircraft weapons and defensive systems; operating and maintaining aircraft in-flight refueling systems; executing aircraft safety and emergency procedures; computing and verifying passenger, cargo, fuel, and emergency and special equipment weight and balance data; and conducting cargo and personnel drops.

Illustrative Examples: Aerial Ice Observer; Helicopter Utility Aircrewperson; Airborne Radar Systems Journeyperson

55-3012 Aircraft Launch and Recovery Specialists

Operate and maintain catapults, arresting gear, and associated mechanical, hydraulic, and control systems involved primarily in aircraft carrier takeoff and landing operations. Duties include installing and maintaining visual landing aids; testing and maintaining launch and recovery equipment using electric and mechanical test equipment and hand tools; activating airfield arresting systems,

such as crash barriers and cables, during emergency landing situations; directing aircraft launch and recovery operations using hand or light signals; and maintaining logs of airplane launches, recoveries, and equipment maintenance.

Illustrative Examples: Aircraft Recovery Specialist; Catapult Operator; Arresting Gear Operator

55-3013 Armored Assault Vehicle Crew Members
Operate tanks, light armor, and amphibious assault vehicles during combat situations on land or in aquatic environments. Duties include driving armored vehicles which require specialized training; operating and maintaining targeting and firing systems; operating and maintaining advanced onboard communications and navigation equipment; transporting personnel and equipment in a combat environment; and operating and maintaining auxiliary weapons, including machine guns and grenade launchers.

Illustrative Examples: Tank Crewperson; Assault Amphibious Vehicle Crewperson; Infantry Fighting Vehicle Crewperson

55-3014 Artillery and Missile Crew Members
Target, fire, and maintain weapons used to destroy enemy positions, aircraft, and vessels. Field artillery crew members predominantly use guns, cannons, and howitzers in ground combat operations, while air defense artillery crew members predominantly use missiles and rockets. Naval artillery crew members predominantly use torpedoes and missiles launched from a ship or submarine. Duties include testing, inspecting, and storing ammunition, missiles, and torpedoes; conducting preventive and routine maintenance on weapons and related equipment; establishing and maintaining radio and wire communications; and operating weapons targeting, firing, and launch computer systems.

Illustrative Examples: Field Artillery Cannoneer; Torpedoperson's Mate

55-3015 Command and Control Center Specialists
Operate and monitor communications, detection, and weapons systems essential for controlling air, ground, and naval operations. Duties include maintaining and relaying critical communications between air, naval, and ground forces; implementing emergency plans for natural and wartime disasters; relaying command center information to high-level military and government decision makers; monitoring surveillance and detection systems, such as air defense; interpreting and evaluating tactical situations and making recommendations to

superiors; and operating weapons targeting, firing, and launch computer systems.

Illustrative Examples: Tactical Air Defense Controller; Early Warning System Operator; Command and Control Journeyperson

55-3016 Infantry
Operate weapons and equipment in ground combat operations. Duties include operating and maintaining weapons, such as rifles, machine guns, mortars, and hand grenades; locating, constructing, and camouflaging infantry positions and equipment; evaluating terrain and recording topographical information; operating and maintaining field communications equipment; assessing need for and directing supporting fire; placing explosives and performing minesweeping activities on land; and participating in basic reconnaissance operations.

Illustrative Examples: Rifleperson; Machinegunner; Heavy Antiarmor Weapons Crewmember

55-3017 Radar and Sonar Technicians
Operate equipment using radio or sound wave technology to identify, track, and analyze objects or natural phenomena of military interest. Includes airborne, shipboard, and terrestrial positions. May perform minor maintenance.

Illustrative Examples: Field Artillery Firefinder Radar Operator; Sonar Technician; Minehunting Sonar Set Operator

55-3018 Special Forces
Implement unconventional operations by air, land, or sea during combat or peacetime as members of elite teams. These activities include offensive raids, demolitions, reconnaissance, search and rescue, and counterterrorism. In addition to their combat training, special forces members often have specialized training in swimming, diving, parachuting, survival, emergency medicine, and foreign languages. Duties include conducting advanced reconnaissance operations and collecting intelligence information; recruiting, training, and equipping friendly forces; conducting raids and invasions on enemy territories; laying and detonating explosives for demolition targets; locating, identifying, defusing, and disposing of ordnance; and operating and maintaining sophisticated communications equipment.

Illustrative Examples: Combatant Swimmer; Pararescue Journeyman; Special Forces Weapons Sergeant

55-3019 Military Enlisted Tactical Operations and Air/Weapons Specialists and Crew Members, All Other

All military enlisted tactical operations and air/weapons specialists and crew members not listed separately.

Illustrative Examples: Sensor Operator; Weapons Instructor; Operations and Intelligence Specialist

Alphabetical Index of Occupations

Accountants and auditors, 13–2011
Accounting and auditing clerks, See, 43–3031
Actors, 27–2011
Actors, producers, and directors, 27–2010
Actuaries, 15–2011
Administrative law judges, adjudicators, and hearing officers, 23–1021
Administrative services managers, 11–3011
Adult literacy, remedial education, and GED teachers and instructors, 25–3011
Advertising and promotions managers, 11–2011
Advertising sales agents, 41–3011
Advertising, marketing, promotions, public relations, and sales managers, 11–2000
Aerospace engineering and operations technicians, 17–3021
Aerospace engineers, 17–2011
Agents and business managers of artists, performers, and athletes, 13–1011
Agricultural and food science technicians, 19–4011
Agricultural and food scientists, 19–1010
Agricultural engineers, 17–2021
Agricultural equipment operators, 45–2091
Agricultural inspectors, 45–2011
Agricultural managers, 11–9010
Agricultural sciences teachers, postsecondary, 25–1041
Agricultural workers, 45–2000
Air crew members, 55–3011
Air crew officers, 55–1011
Air traffic controllers, 53–2021
Air traffic controllers and airfield operations specialists, 53–2020
Air transportation workers, 53–2000
Aircraft cargo handling supervisors, 53–1011
Aircraft launch and recovery officers, 55–1012
Aircraft launch and recovery specialists, 55–3012
Aircraft mechanics and service technicians, 49–3011
Aircraft pilots and flight engineers, 53–2010
Aircraft structure, surfaces, rigging, and systems assemblers, 51–2011
Airfield operations specialists, 53–2022
Airline pilots, copilots, and flight engineers, 53–2011
Ambulance drivers and attendants, except emergency medical technicians, 53–3011
Amusement and recreation attendants, 39–3091
Anesthesiologists, 29–1061
Animal breeders, 45–2021
Animal care and service workers, 39–2000
Animal control workers, 33–9011
Animal scientists, 19–1011
Animal trainers, 39–2011
Announcers, 27–3010
Anthropologists and archeologists, 19–3091
Anthropology and archeology teachers, postsecondary, 25–1061
Appraisers and assessors of real estate, 13–2021
Arbitrators, mediators, and conciliators, 23–1022
Architects, except landscape and naval, 17–1011
Architects, except naval, 17–1010
Architects, surveyors, and cartographers, 17–1000
Architectural and civil drafters, 17–3011
Architecture and engineering occupations, 17–0000
Architecture teachers, postsecondary, 25–1031
Archivists, 25–4011
Archivists, curators, and museum technicians, 25–4010
Area, ethnic, and cultural studies teachers, postsecondary, 25–1062
Armored assault vehicle crew members, 55–3013
Armored assault vehicle officers, 55–1013
Art and design workers, 27–1000
Art directors, 27–1011

Art, drama, and music teachers, postsecondary, 25–1121
Artillery and missile crew members, 55–3014
Artillery and missile officers, 55–1014
Artists and related workers, 27–1010
Arts, communications, and humanities teachers, postsecondary, 25–1120
Arts, design, entertainment, sports, and media occupations, 27–0000
Assemblers and fabricators, 51–2000
Astronomers, 19–2011
Astronomers and physicists, 19–2010
Athletes and sports competitors, 27–2021
Athletes, coaches, umpires, and related workers, 27–2020
Athletic trainers, 29–9091
Atmospheric and space scientists, 19–2021
Atmospheric, earth, marine, and space sciences teachers, postsecondary, 25–1051
Audio and video equipment technicians, 27–4011
Audio-visual collections specialists, 25–9011
Audiologists, 29–1121
Auditors, See, 13–2011
Automotive body and related repairers, 49–3021
Automotive glass installers and repairers, 49–3022
Automotive service technicians and mechanics, 49–3023
Automotive technicians and repairers, 49–3020
Avionics technicians, 49–2091
Baggage porters and bellhops, 39–6011
Baggage porters, bellhops, and concierges, 39–6010
Bailiffs, 33–3011
Bailiffs, correctional officers, and jailers, 33–3010
Bakers, 51–3011
Barbers, 39–5011
Barbers and cosmetologists, 39–5010
Bartenders, 35–3011
Bicycle repairers, 49–3091
Bill and account collectors, 43–3011
Billing and posting clerks and machine operators, 43–3021
Bindery workers, 51–5011
Biochemists and biophysicists, 19–1021
Biological science teachers, postsecondary, 25–1042
Biological scientists, 19–1020
Biological technicians, 19–4021
Biomedical engineers, 17–2031
Boilermakers, 47–2011
Bookbinders, 51–5012
Bookbinders and bindery workers, 51–5010
Bookkeeping, accounting, and auditing clerks, 43–3031
Brickmasons and blockmasons, 47–2021
Brickmasons, blockmasons, and stonemasons, 47–2020
Bridge and lock tenders, 53–6011
Broadcast and sound engineering technicians and radio operators, 27–4010
Broadcast news analysts, 27–3021
Broadcast technicians, 27–4012
Brokerage clerks, 43–4011
Budget analysts, 13–2031
Building and grounds cleaning and maintenance occupations, 37–0000
Building cleaning and pest control workers, 37–2000
Building cleaning workers, 37–2010
Building inspectors, See, 47–4011
Bus and truck mechanics and diesel engine specialists, 49–3031
Bus drivers, 53–3020
Bus drivers, school, 53–3022
Bus drivers, transit and intercity, 53–3021
Business and financial operations occupations, 13–0000
Business operations specialists, 13–1000
Business teachers, postsecondary, 25–1011
Butchers and meat cutters, 51–3021
Butchers and other meat, poultry, and fish processing workers, 51–3020
Buyers and purchasing agents, 13–1020
Cabinetmakers and bench carpenters, 51–7011
Camera and photographic equipment repairers, 49–9061
Camera operators, television, video, and motion picture, 27–4031

Captains, mates, and pilots of water vessels, 53–5021
Cardiovascular technologists and technicians, 29–2031
Cargo and freight agents, 43–5011
Carpenters, 47–2031
Carpet installers, 47–2041
Carpet, floor, and tile installers and finishers, 47–2040
Cartographers and photogrammetrists, 17–1021
Cashiers, 41–2011
Cement masons and concrete finishers, 47–2051
Cement masons, concrete finishers, and terrazzo workers, 47–2050
Cementing and gluing machine operators and tenders, 51–9191
Chefs and head cooks, 35–1011
Chemical engineers, 17–2041
Chemical equipment operators and tenders, 51–9011
Chemical plant and system operators, 51–8091
Chemical processing machine setters, operators, and tenders, 51–9010
Chemical technicians, 19–4031
Chemistry teachers, postsecondary, 25–1052
Chemists, 19–2031
Chemists and materials scientists, 19–2030
Chief executives, 11–1011
Child care workers, 39–9011
Child, family, and school social workers, 21–1021
Chiropractors, 29–1011
Choreographers, 27–2032
Civil engineering technicians, 17–3022
Civil engineers, 17–2051
Claims adjusters, appraisers, examiners, and investigators, 13–1030
Claims adjusters, examiners, and investigators, 13–1031
Cleaners of vehicles and equipment, 53–7061
Cleaning, washing, and metal pickling equipment operators and tenders, 51–9192
Clergy, 21–2011
Clinical laboratory technologists and technicians, 29–2010
Clinical, counseling, and school psychologists, 19–3031
Coaches and scouts, 27–2022
Coating, painting, and spraying machine setters, operators, and tenders, 51–9121
Coil winders, tapers, and finishers, 51–2021
Coin, vending, and amusement machine servicers and repairers, 49–9091
Combined food preparation and serving workers, including fast food, 35–3021
Command and control center officers, 55–1015
Command and control center specialists, 55–3015
Commercial and industrial designers, 27–1021
Commercial divers, 49–9092
Commercial pilots, 53–2012
Communications equipment operators, 43–2000
Communications equipment workers, See, 27–4000
Communications teachers, postsecondary, 25–1122
Communications workers, See, 27–3000
Community and social services occupations, 21–0000
Community association managers, See, 11–9141
Compensation and benefits managers, 11–3041
Compensation, benefits, and job analysis specialists, 13–1072
Compliance officers, except agriculture, construction, health and safety, and transportation, 13–1041
Computer and information scientists, research, 15–1011
Computer and information systems managers, 11–3021
Computer and mathematical occupations, 15–0000
Computer control programmers and operators, 51–4010

Computer hardware engineers, 17–2061
Computer operators, 43–9011
Computer programmers, 15–1021
Computer science teachers, postsecondary, 25–1021
Computer software engineers, 15–1030
Computer software engineers, applications, 15–1031
Computer software engineers, systems software, 15–1032
Computer specialists, 15–1000
Computer support specialists, 15–1041
Computer systems analysts, 15–1051
Computer, automated teller, and office machine repairers, 49–2011
Computer-controlled machine tool operators, metal and plastic, 51–4011
Concierges, 39–6012
Conservation scientists, 19–1031
Conservation scientists and foresters, 19–1030
Construction and building inspectors, 47–4011
Construction and extraction occupations, 47–0000
Construction and related workers, other, 47–4000
Construction equipment operators, 47–2070
Construction laborers, 47–2061
Construction managers, 11–9021
Construction trades workers, 47–2000
Continuous mining machine operators, 47–5041
Control and valve installers and repairers, 49–9010
Control and valve installers and repairers, except mechanical door, 49–9012
Conveyor operators and tenders, 53–7011
Cooks, 35–2010
Cooks and food preparation workers, 35–2000
Cooks, all other, 35–2019
Cooks, fast food, 35–2011
Cooks, institution and cafeteria, 35–2012
Cooks, private household, 35–2013
Cooks, restaurant, 35–2014
Cooks, short order, 35–2015
Cooling and freezing equipment operators and tenders, 51–9193
Correctional officers and jailers, 33–3012
Correspondence clerks, 43–4021
Cost estimators, 13–1051
Costume attendants, 39–3092
Counselors 21–1010
Counselors, social workers, and other community and social service specialists, 21–1000
Counter and rental clerks, 41–2021
Counter and rental clerks and parts salespersons, 41–2020
Counter attendants, cafeteria, food concession, and coffee shop, 35–3022
Couriers and messengers, 43–5021
Court reporters, 23–2091
Court, municipal, and license clerks, 43–4031
Craft artists, 27–1012
Crane and tower operators, 53–7021
Credit analysts, 13–2041
Credit authorizers, checkers, and clerks, 43–4041
Criminal justice and law enforcement teachers, postsecondary, 25–1111
Crossing guards, 33–9091
Crushing, grinding, and polishing machine setters, operators, and tenders, 51–9021
Crushing, grinding, polishing, mixing, and blending workers, 51–9020
Curators, 25–4012
Customer service representatives, 43–4051
Cutters and trimmers, hand, 51–9031
Cutting and slicing machine setters, operators, and tenders, 51–9032
Cutting workers, 51–9030
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic, 51–4031
Dancers, 27–2031
Dancers and choreographers, 27–2030
Data entry and information processing workers, 43–9020
Data entry keyers, 43–9021
Database administrators, 15–1061
Demonstrators and product promoters, 41–9011

Dental assistants, 31–9091
Dental hygienists, 29–2021
Dental laboratory technicians, 51–9081
Dentists, 29–1020
Dentists, all other specialists, 29–1029
Dentists, general, 29–1021
Derrick operators, oil and gas, 47–5011
Derrick, rotary drill, and service unit operators, oil, gas, and mining, 47–5010
Designers, 27–1020
Desktop publishers, 43–9031
Detectives and criminal investigators, 33–3021
Diagnostic medical sonographers, 29–2032
Diagnostic related technologists and technicians, 29–2030
Dietetic technicians, 29–2051
Dietitians and nutritionists, 29–1031
Dining room and cafeteria attendants and bartender helpers, 35–9011
Directors, religious activities and education, 21–2021
Dishwashers, 35–9021
Dispatchers, 43–5030
Dispatchers, except police, fire, and ambulance, 43–5032
Door-to-door sales workers, news and street vendors, and related workers, 41–9091
Drafters, 17–3010
Drafters, engineering, and mapping technicians, 17–3000
Dredge operators, 53–7031
Dredge, excavating, and loading machine operators, 53–7030
Drilling and boring machine tool setters, operators, and tenders, metal and plastic, 51–4032
Driver/sales workers, 53–3031
Driver/sales workers and truck drivers, 53–3030
Drivers, See, 53–3000
Drywall and ceiling tile installers, 47–2081
Drywall installers, ceiling tile installers, and tapers, 47–2080
Earth drillers, except oil and gas, 47–5021
Economics teachers, postsecondary, 25–1063
Economists, 19–3011
Editors, 27–3041
Education administrators, 11–9030
Education administrators, elementary and secondary school, 11–9032
Education administrators, postsecondary, 11–9033
Education administrators, preschool and child care center/program, 11–9031
Education and library science teachers, postsecondary, 25–1080
Education teachers, postsecondary, 25–1081
Education, training, and library occupations, 25–0000
Educational, vocational, and school counselors, 21–1012
Electric motor, power tool, and related repairers, 49–2092
Electrical and electronic engineering technicians, 17–3023
Electrical and electronic equipment assemblers, 51–2022
Electrical and electronic equipment mechanics, installers, and repairers, 49–2000
Electrical and electronics drafters, 17–3012
Electrical and electronics engineers, 17–2070
Electrical and electronics installers and repairers, transportation equipment, 49–2093
Electrical and electronics repairers, commercial and industrial equipment, 49–2094
Electrical and electronics repairers, powerhouse, substation, and relay, 49–2095
Electrical engineers, 17–2071
Electrical power-line installers and repairers, 49–9051
Electrical, electronics, and electromechanical assemblers, 51–2020
Electricians, 47–2111
Electro-mechanical technicians, 17–3024
Electromechanical equipment assemblers, 51–2023
Electronic equipment installers and repairers, motor vehicles, 49–2096

Electronic home entertainment equipment installers and repairers, 49–2097
Electronics engineers, except computer, 17–2072
Elementary and middle school teachers, 25–2020
Elementary school teachers, except special education, 25–2021
Elevator installers and repairers, 47–4021
Eligibility interviewers, government programs, 43–4061
Embalmers, 39–4011
Emergency management specialists, 13–1061
Emergency medical technicians and paramedics, 29–2041
Employment, recruitment, and placement specialists, 13–1071
Engine and other machine assemblers, 51–2031
Engineering and architecture teachers, postsecondary, 25–1030
Engineering managers, 11–9041
Engineering teachers, postsecondary, 25–1032
Engineering technicians, except drafters, 17–3020
Engineering technicians, except drafters, all other, 17–3029
Engineers, 17–2000
Engineers, sales, 41–9031
English language and literature teachers, postsecondary, 25–1123
Entertainers and performers, sports and related workers, 27–2000
Entertainment attendants and related workers, 39–3000
Environmental engineering technicians, 17–3025
Environmental engineers, 17–2081
Environmental science and protection technicians, including health, 19–4091
Environmental science teachers, postsecondary, 25–1053
Environmental scientists and geoscientists, 19–2040
Environmental scientists and specialists, including health, 19–2041
Epidemiologists, 19–1041
Etchers and engravers, 51–9194
Excavating and loading machine and dragline operators, 53–7032
Executive secretaries and administrative assistants, 43–6011
Explosives workers, ordnance handling experts, and blasters, 47–5031
Extraction workers, 47–5000
Extruding and drawing machine setters, operators, and tenders, metal and plastic, 51–4021
Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers, 51–6091
Extruding, forming, pressing, and compacting machine setters, operators, and tenders, 51–9041
Fabric and apparel patternmakers, 51–6092
Fabric menders, except garment, 49–9093
Fallers, 45–4021
Family and general practitioners, 29–1062
Farm and home management advisors, 25–9021
Farm equipment mechanics, 49–3041
Farm labor contractors, 45–1012
Farm, ranch, and other agricultural managers, 11–9011
Farmers and ranchers, 11–9012
Farming, fishing, and forestry occupations, 45–0000
Farmworkers and laborers, crop, nursery, and greenhouse, 45–2092
Farmworkers, farm and ranch animals, 45–2093
Fashion designers, 27–1022
Fast food and counter workers, 35–3020
Fence erectors, 47–4031
Fiberglass laminators and fabricators, 51–2091
File clerks, 43–4071
Film and video editors, 27–4032
Financial analysts, 13–2051
Financial analysts and advisors, 13–2050
Financial clerks, 43–3000
Financial examiners, 13–2061
Financial managers, 11–3031

Financial specialists, 13–2000
Fine artists, including painters, sculptors, and illustrators, 27–1013
Fire fighters, 33–2011
Fire fighting and prevention workers, 33–2000
Fire inspectors, 33–2020
Fire inspectors and investigators, 33–2021
First-line enlisted military supervisor/managers, 55–2000
First-line enlisted military supervisors/managers, 55–2010
First-line supervisors/managers of air crew members, 55–2011
First-line supervisors/managers of all other tactical operations specialists, 55–2013
First-line supervisors/managers of construction trades and extraction workers, 47–1011
First-line supervisors/managers of correctional officers, 33–1011
First-line supervisors/managers of farming, fishing, and forestry workers, 45–1011
First-line supervisors/managers of fire fighting and prevention workers, 33–1021
First-line supervisors/managers of food preparation and serving workers, 35–1012
First-line supervisors/managers of gaming workers, 39–1010
First-line supervisors/managers of helpers, laborers, and material movers, hand, 53–1021
First-line supervisors/managers of housekeeping and janitorial workers, 37–1011
First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers, 37–1012
First-line supervisors/managers of mechanics, installers, and repairers, 49–1011
First-line supervisors/managers of non-retail sales workers, 41–1012
First-line supervisors/managers of office and administrative support workers, 43–1011
First-line supervisors/managers of personal service workers, 39–1021
First-line supervisors/managers of police and detectives, 33–1012
First-line supervisors/managers of production and operating workers, 51–1011
First-line supervisors/managers of retail sales workers, 41–1011
First-line supervisors/managers of transportation and material-moving machine and vehicle operators, 53–1031
First-line supervisors/managers of weapons specialists/crew members, 55–2012
First-line supervisors/managers, building and grounds cleaning and maintenance workers, 37–1010
First-line supervisors/managers, food preparation and serving workers, 35–1010
First-line supervisors/managers, law enforcement workers, 33–1010
First-line supervisors/managers, protective service workers, 33–1000
First-line supervisors/managers, sales workers, 41–1010
Fish and game wardens, 33–3031
Fishers and related fishing workers, 45–3011
Fishing and hunting workers, 45–3000
Fitness trainers and aerobics instructors, 39–9031
Flight attendants, 39–6031
Floor layers, except carpet, wood, and hard tiles, 47–2042
Floor sanders and finishers, 47–2043
Floral designers, 27–1023
Food and beverage serving workers, 35–3000
Food and tobacco roasting, baking, and drying machine operators and tenders, 51–3091
Food batchmakers, 51–3092
Food cooking machine operators and tenders, 51–3093
Food preparation and serving related occupations, 35–0000
Food preparation workers, 35–2021
Food processing workers, 51–3000
Food scientists and technologists, 19–1012
Food servers, nonrestaurant, 35–3041
Food service managers, 11–9051

Foreign language and literature teachers, postsecondary, 25–1124
Forensic science technicians, 19–4092
Forest and conservation technicians, 19–4093
Forest and conservation workers, 45–4011
Forest fire inspectors and prevention specialists, 33–2022
Forest, conservation, and logging workers, 45–4000
Foresters, 19–1032
Forestry and conservation science teachers, postsecondary, 25–1043
Forging machine setters, operators, and tenders, metal and plastic, 51–4022
Forming machine setters, operators, and tenders, metal and plastic, 51–4020
Foundry mold and coremakers, 51–4071
Funeral attendants, 39–4021
Funeral directors, 11–9061
Funeral service workers, 39–4000
Furnace, kiln, oven, drier, and kettle operators and tenders, 51–9051
Furniture finishers, 51–7021
Gaming and sports book writers and runners, 39–3012
Gaming cage workers, 43–3041
Gaming change persons and booth cashiers, 41–2012
Gaming dealers, 39–3011
Gaming managers, 11–9071
Gaming services workers, 39–3010
Gaming supervisors, 39–1011
Gaming surveillance officers and gaming investigators, 33–9031
Gas compressor and gas pumping station operators, 53–7071
Gas plant operators, 51–8092
General and operations managers, 11–1021
Geographers, 19–3092
Geography teachers, postsecondary, 25–1064
Geological and petroleum technicians, 19–4041
Geoscientists, except hydrologists and geographers, 19–2042
Glaziers, 47–2121
Graders and sorters, agricultural products, 45–2041
Graduate teaching assistants, 25–1191
Graphic designers, 27–1024
Grinding and polishing workers, hand, 51–9022
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic, 51- 4033
Grounds maintenance workers, 37–3010
Hairdressers, hairstylists, and cosmetologists, 39–5012
Hazardous materials removal workers, 47–4041
Health and safety engineers, except mining safety engineers and inspectors, 17–2111
Health diagnosing and treating practitioner support technicians, 29–2050
Health diagnosing and treating practitioners, 29–1000
Health educators, 21–1091
Health specialties teachers, postsecondary, 25–1071
Health teachers, postsecondary, 25–1070
Health technologists and technicians, 29–2000
Healthcare practitioners and technical occupations, 29–0000
Healthcare support occupations, 31–0000
Heat treating equipment setters, operators, and tenders, metal and plastic, 51–4191
Heating, air conditioning, and refrigeration mechanics and installers, 49–9021
Heavy vehicle and mobile equipment service technicians and mechanics, 49–3040
Helpers, construction trades, 47–3010
Helpers, construction trades, all other, 47–3019
Helpers—brickmasons, blockmasons, stonemasons, and tile and marble setters, 47–3011
Helpers—carpenters, 47–3012
Helpers—electricians, 47–3013
Helpers—extraction workers, 47–5081

Helpers—installation, maintenance, and repair workers, 49–9098
Helpers—painters, paperhangers, plasterers, and stucco masons, 47–3014
Helpers—pipelayers, plumbers, pipefitters, and steamfitters, 47–3015
Helpers—production workers, 51–9198
Helpers—roofers, 47–3016
Highway maintenance workers, 47–4051
Historians, 19–3093
History teachers, postsecondary, 25–1125
Hoist and winch operators, 53–7041
Home appliance repairers, 49–9031
Home economics teachers, postsecondary, 25–1192
Home health aides, 31–1011
Hosts and hostesses, restaurant, lounge, and coffee shop, 35–9031
Hotel, motel, and resort desk clerks, 43–4081
Human resources assistants, except payroll and timekeeping, 43–4161
Human resources managers, 11–3040
Human resources, training, and labor relations specialists, 13–1070
Hunters and trappers, 45–3021
Hydrologists, 19–2043
Industrial engineering technicians, 17–3026
Industrial engineers, 17–2112
Industrial engineers, including health and safety, 17–2110
Industrial machinery installation, repair, and maintenance workers, 49–9040
Industrial machinery mechanics, 49–9041
Industrial production managers, 11–3051
Industrial truck and tractor operators, 53–7051
Industrial-organizational psychologists, 19–3032
Infantry, 55–3016
Infantry officers, 55–1016
Information and record clerks, 43–4000
Information systems managers, See, 11–3021
Inspectors, testers, sorters, samplers, and weighers, 51–9061
Installation, maintenance, and repair occupations, 49–0000
Instructional coordinators, 25–9031
Insulation workers, 47–2130
Insulation workers, floor, ceiling, and wall, 47–2131
Insulation workers, mechanical, 47–2132
Insurance appraisers, auto damage, 13–1032
Insurance claims and policy processing clerks, 43–9041
Insurance sales agents, 41–3021
Insurance underwriters, 13–2053
Interior designers, 27–1025
Internists, general, 29–1063
Interpreters and translators, 27–3091
Interviewers, except eligibility and loan, 43–4111
Janitors and cleaners, except maids and housekeeping cleaners, 37–2011
Jewelers and precious stone and metal workers, 51–9071
Job printers, 51–5021
Judges, magistrate judges, and magistrates, 23–1023
Judges, magistrates, and other judicial workers, 23–1020
Kindergarten teachers, except special education, 25–2012
Laborers and freight, stock, and material movers, hand, 53–7062
Laborers and material movers, hand, 53–7060
Landscape architects, 17–1012
Landscaping and groundskeeping workers, 37–3011
Lathe and turning machine tool setters, operators, and tenders, metal and plastic, 51–4034
Laundry and dry-cleaning workers, 51–6011
Law clerks, 23–2092
Law enforcement workers, 33–3000
Law teachers, postsecondary, 25–1112
Law, criminal justice, and social work teachers, postsecondary, 25–1110
Lawyers, 23–1011
Lawyers, judges, and related workers, 23–1000
Lay-out workers, metal and plastic, 51–4192
Legal occupations, 23–0000

Legal secretaries, 43–6012
Legal support workers, 23–2000
Legislators, 11–1031
Librarians, 25–4021
Librarians, curators, and archivists, 25–4000
Library assistants, clerical, 43–4121
Library science teachers, postsecondary, 25–1082
Library technicians, 25–4031
Licensed practical and licensed vocational nurses, 29–2061
Life sciences teachers, postsecondary, 25–1040
Life scientists, 19–1000
Life, physical, and social science occupations, 19–0000
Life, physical, and social science technicians, 19–4000
Lifeguards, ski patrol, and other recreational protective service workers, 33–9092
Line installers and repairers, 49–9050
Loading machine operators, underground mining, 53–7033
Loan counselors, 13–2071
Loan counselors and officers, 13–2070
Loan interviewers and clerks, 43–4131
Loan officers, 13–2072
Locker room, coatroom, and dressing room attendants, 39–3093
Locksmiths and safe repairers, 49–9094
Locomotive engineers, 53–4011
Locomotive engineers and operators, 53–4010
Locomotive firers, 53–4012
Lodging managers, 11–9081
Log graders and scalers, 45–4023
Logging equipment operators, 45–4022
Logging workers, 45–4020
Logisticians, 13–1081
Machine feeders and offbearers, 53–7063
Machine tool cutting setters, operators, and tenders, metal and plastic, 51–4030
Machinists, 51–4041
Maids and housekeeping cleaners, 37–2012
Mail clerks and mail machine operators, except postal service, 43–9051
Maintenance and repair workers, general, 49–9042
Maintenance workers, machinery, 49–9043
Makeup artists, theatrical and performance, 39–5091
Management analysts, 13–1111
Management occupations, 11–0000
Managers, See also "First line supervisors/managers,"
Manicurists and pedicurists, 39–5092
Manufactured building and mobile home installers, 49–9095
Marine engineers and naval architects, 17–2121
Market and survey researchers, 19–3020
Market research analysts, 19–3021
Marketing and sales managers, 11–2020
Marketing managers, 11–2021
Marriage and family therapists, 21–1013
Massage therapists, 31–9011
Material moving workers, 53–7000
Material recording, scheduling, dispatching, and distributing workers, 43–5000
Materials engineers, 17–2131
Materials scientists, 19–2032
Math and computer teachers, postsecondary, 25–1020
Mathematical science teachers, postsecondary, 25–1022
Mathematical scientists, 15–2000
Mathematical technicians, 15–2091
Mathematicians, 15–2021
Meat, poultry, and fish cutters and trimmers, 51–3022
Mechanical door repairers, 49–9011
Mechanical drafters, 17–3013
Mechanical engineering technicians, 17–3027
Mechanical engineers, 17–2141
Mechnics and repairers, See, 49–0000
Media and communication equipment workers, 27–4000
Media and communication workers, 27–3000
Medical and clinical laboratory technicians, 29–2012
Medical and clinical laboratory technologists, 29–2011

Medical and health services managers, 11–9111
Medical and public health social workers, 21–1022
Medical appliance technicians, 51–9082
Medical assistants, 31–9092
Medical equipment preparers, 31–9093
Medical equipment repairers, 49–9062
Medical records and health information technicians, 29–2071
Medical scientists, 19–1040
Medical scientists, except epidemiologists, 19–1042
Medical secretaries, 43–6013
Medical transcriptionists, 31–9094
Medical, dental, and ophthalmic laboratory technicians, 51–9080
Meeting and convention planners, 13–1121
Mental health and substance abuse social workers, 21–1023
Mental health counselors, 21–1014
Merchandise displayers and window trimmers, 27–1026
Metal furnace and kiln operators and tenders, 51–4050
Metal workers and plastic workers, 51–4000
Metal-refining furnace operators and tenders, 51–4051
Meter readers, utilities, 43–5041
Microbiologists, 19–1022
Middle school teachers, except special and vocational education, 25–2022
Military enlisted tactical operations and air/weapons specialists and crew members, 55–3010
Military officer special and tactical operations leaders/managers, 55–1010
Military specific occupations, 55–0000
Milling and planing machine setters, operators, and tenders, metal and plastic, 51–4035
Millwrights, 49–9044
Mine cutting and channeling machine operators, 47–5042
Mining and geological engineers, including mining safety engineers, 17–2151
Mining machine operators, 47–5040
Miscellaneous agricultural workers, 45–2090
Miscellaneous assemblers and fabricators, 51–2090
Miscellaneous community and social service specialists, 21–1090
Miscellaneous construction and related workers, 47–4090
Miscellaneous electrical and electronic equipment mechanics, installers, and repairers, 49–2090
Miscellaneous entertainment attendants and related workers, 39–3090
Miscellaneous food processing workers, 51–3090
Miscellaneous health practitioners and technical workers, 29–9090
Miscellaneous health technologists and technicians, 29–2090
Miscellaneous healthcare support occupations, 31–9090
Miscellaneous installation, maintenance, and repair workers, 49–9090
Miscellaneous legal support workers, 23–2090
Miscellaneous life, physical, and social science technicians, 19–4090
Miscellaneous media and communication workers, 27–3090
Miscellaneous metalworkers and plastic workers, 51–4190
Miscellaneous personal appearance workers, 39–5090
Miscellaneous plant and system operators, 51–8090
Miscellaneous postsecondary teachers, 25–1190
Miscellaneous production workers, 51–9190
Miscellaneous protective service workers, 33–9090
Miscellaneous sales and related workers, 41–9090
Miscellaneous social scientists and related workers, 19–3090
Miscellaneous textile, apparel, and furnishings workers, 51–6090
Miscellaneous vehicle and mobile equipment mechanics, installers, and repairers, 49–3090

Mixing and blending machine setters, operators, and tenders, 51–9023
Mobile heavy equipment mechanics, except engines, 49–3042
Model makers and patternmakers, metal and plastic, 51–4060
Model makers and patternmakers, wood, 51–7030
Model makers, metal and plastic, 51–4061
Model makers, wood, 51–7031
Models, 41–9012
Models, demonstrators, and product promoters, 41–9010
Molders and molding machine setters, operators, and tenders, metal and plastic, 51–4070
Molders, shapers, and casters, except metal and plastic, 51–9195
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic, 51–4072
Motion picture projectionists, 39–3021
Motor vehicle operators, 53–3000
Motorboat mechanics, 49–3051
Motorboat operators, 53–5022
Motorcycle mechanics, 49–3052
Multi-media artists and animators, 27–1014
Multiple machine tool setters, operators, and tenders, metal and plastic, 51–4081
Museum technicians and conservators, 25–4013
Music directors and composers, 27–2041
Musical instrument repairers and tuners, 49–9063
Musicians and singers, 27–2042
Musicians, singers, and related workers, 27–2040
Natural sciences managers, 11–9121
Network and computer systems administrators, 15–1071
Network systems and data communications analysts, 15–1081
New accounts clerks, 43–4141
News analysts, reporters and correspondents, 27–3020
Nonfarm animal caretakers, 39–2021
Nuclear engineers, 17–2161
Nuclear medicine technologists, 29–2033
Nuclear power reactor operators, 51–8011
Nuclear technicians, 19–4051
Numerical tool and process control programmers, 51–4012
Nursing aides, orderlies, and attendants, 31–1012
Nursing instructors and teachers, postsecondary, 25–1072
Nursing, psychiatric, and home health aides, 31–1010
Obstetricians and gynecologists, 29–1064
Occupational and physical therapist assistants and aides, 31–2000
Occupational health and safety specialists, 29–9011
Occupational health and safety specialists and technicians, 29–9010
Occupational health and safety technicians, 29–9012
Occupational therapist aides, 31–2012
Occupational therapist assistants, 31–2011
Occupational therapist assistants and aides, 31–2010
Occupational therapists, 29–1122
Office and administrative support occupations, 43–0000
Office clerks, general, 43–9061
Office machine operators, except computer, 43–9071
Operating engineers and other construction equipment operators, 47–2073
Operations research analysts, 15–2031
Operations specialties managers, 11–3000
Ophthalmic laboratory technicians, 51–9083
Opticians, dispensing, 29–2081
Optometrists, 29–1041
Oral and maxillofacial surgeons, 29–1022
Order clerks, 43–4151
Orthodontists, 29–1023
Orthotists and prosthetists, 29–2091
Outdoor power equipment and other small engine mechanics, 49–3053
Packaging and filling machine operators and tenders, 51–9111
Packers and packagers, hand, 53–7064
Painters and paperhangers, 47–2140

Painters, construction and maintenance, 47–2141
Painters, transportation equipment, 51–9122
Painting workers, 51–9120
Painting, coating, and decorating workers, 51–9123
Paper goods machine setters, operators, and tenders, 51–9196
Paperhangers, 47–2142
Paralegals and legal assistants, 23–2011
Parking enforcement workers, 33–3041
Parking lot attendants, 53–6021
Parts salespersons, 41–2022
Patternmakers, metal and plastic, 51–4062
Patternmakers, wood, 51–7032
Paving, surfacing, and tamping equipment operators, 47–2071
Payroll and timekeeping clerks, 43–3051
Pediatricians, general, 29–1065
Personal and home care aides, 39–9021
Personal appearance workers, 39–5000
Personal care and service occupations, 39–0000
Personal financial advisors, 13–2052
Pest control workers, 37–2021
Pesticide handlers, sprayers, and applicators, vegetation, 37–3012
Petroleum engineers, 17–2171
Petroleum pump system operators, refinery operators, and gaugers, 51–8093
Pharmacists, 29–1051
Pharmacy aides, 31–9095
Pharmacy technicians, 29–2052
Philosophy and religion teachers, postsecondary, 25–1126
Photographers, 27–4021
Photographic process workers, 51–9131
Photographic process workers and processing machine operators, 51–9130
Photographic processing machine operators, 51–9132
Physical sciences teachers, postsecondary, 25–1050
Physical scientists, 19–2000
Physical therapist aides, 31–2022
Physical therapist assistants, 31–2021
Physical therapist assistants and aides, 31–2020
Physical therapists, 29–1123
Physician assistants, 29–1071
Physicians and surgeons, 29–1060
Physicists, 19–2012
Physics teachers, postsecondary, 25–1054
Pile-driver operators, 47–2072
Pilots, aircraft, and flight engineers, 53–2010
Pipelayers, 47–2151
Pipelayers, plumbers, pipefitters, and steamfitters, 47–2150
Plant and system operators, 51–8000
Plasterers and stucco masons, 47–2161
Plating and coating machine setters, operators, and tenders, metal and plastic, 51–4193
Plumbers, pipefitters, and steamfitters, 47–2152
Podiatrists, 29–1081
Police and sheriff's patrol officers, 33–3051
Police officers, 33–3050
Police, fire, and ambulance dispatchers, 43–5031
Political science teachers, postsecondary, 25–1065
Political scientists, 19–3094
Postal service clerks, 43–5051
Postal service mail carriers, 43–5052
Postal service mail sorters, processors, and processing machine operators, 43–5053
Postal service workers, 43–5050
Postmasters and mail superintendents, 11–9131
Postsecondary teachers, 25–1000
Pourers and casters, metal, 51–4052
Power distributors and dispatchers, 51–8012
Power plant operators, 51–8013
Power plant operators, distributors, and dispatchers, 51–8010
Precision instrument and equipment repairers, 49–9060
Prepress technicians and workers, 51–5022
Preschool and kindergarten teachers, 25–2010
Preschool teachers, except special education, 25–2011
Pressers, textile, garment, and related materials, 51–6021

Primary, secondary, and special education school teachers, 25–2000
Printers, 51–5020
Printing machine operators, 51–5023
Printing workers, 51–5000
Private detectives and investigators, 33–9021
Probation officers and correctional treatment specialists, 21–1092
Procurement clerks, 43–3061
Producers and directors, 27–2012
Production occupations, 51–0000
Production, planning, and expediting clerks, 43–5061
Proofreaders and copy markers, 43–9081
Property, real estate, and community association managers, 11–9141
Prosthodontists, 29–1024
Protective service occupations, 33–0000
Psychiatric aides, 31–1013
Psychiatric technicians, 29–2053
Psychiatrists, 29–1066
Psychologists, 19–3030
Psychology teachers, postsecondary, 25–1066
Public address system and other announcers, 27–3012
Public relations managers, 11–2031
Public relations specialists, 27–3031
Pump operators, except wellhead pumpers, 53–7072
Pumping station operators, 53–7070
Purchasing agents and buyers, farm products, 13–1021
Purchasing agents, except wholesale, retail, and farm products, 13–1023
Purchasing managers, 11–3061
Radar and sonar technicians, 55–3017
Radiation therapists, 29–1124
Radio and telecommunications equipment installers and repairers, 49–2020
Radio and television announcers, 27–3011
Radio mechanics, 49–2021
Radio operators, 27–4013
Radiologic technologists and technicians, 29–2034
Rail car repairers, 49–3043
Rail transportation workers, 53–4000
Rail yard engineers, dinkey operators, and hostlers, 53–4013
Rail-track laying and maintenance equipment operators, 47–4061
Railroad brake, signal, and switch operators, 53–4021
Railroad conductors and yardmasters, 53–4031
Ranchers, See, 11–9012
Real estate managers, See, 11–9141
Real estate brokers, 41–9021
Real estate brokers and sales agents, 41–9020
Real estate sales agents, 41–9022
Receptionists and information clerks, 43–4171
Recreation and fitness studies teachers, postsecondary, 25–1193
Recreation and fitness workers, 39–9030
Recreation workers, 39–9032
Recreational therapists, 29–1125
Recreational vehicle service technicians, 49–3092
Refractory materials repairers, except brickmasons, 49–9045
Refuse and recyclable material collectors, 53–7081
Registered nurses, 29–1111
Rehabilitation counselors, 21–1015
Reinforcing iron and rebar workers, 47–2171
Religious workers, 21–2000
Reporters and correspondents, 27–3022
Reservation and transportation ticket agents and travel clerks, 43–4181
Residential advisors, 39–9041
Respiratory therapists, 29–1126
Respiratory therapy technicians, 29–2054
Retail sales workers, 41–2000
Retail salespersons, 41–2031
Riggers, 49–9096
Rock splitters, quarry, 47–5051
Rolling machine setters, operators, and tenders, metal and plastic, 51–4023
Roof bolters, mining, 47–5061
Roofers, 47–2181

Rotary drill operators, oil and gas, 47–5012
Roustabouts, oil and gas, 47–5071
Sailors and marine oilers, 53–5011
Sales and related occupations, 41–0000
Sales engineers, 41–9031
Sales managers, 11–2022
Sales representatives, services, 41–3000
Sales representatives, wholesale and manufacturing, 41–4010
Sales representatives, wholesale and manufacturing, except technical and scientific products, 41–4012
Sales representatives, wholesale and manufacturing, technical and scientific products, 41–4011
Sawing machine setters, operators, and tenders, wood, 51–7041
Scientists, life, 19–1000
Scientists, physical, 19–2000
Scientists, social, 19–3000
Secondary school teachers, 25–2030
Secondary school teachers, except special and vocational education, 25–2031
Secretaries and administrative assistants, 43–6010
Secretaries, except legal, medical, and executive, 43–6014
Securities, commodities, and financial services sales agents, 41–3031
Security and fire alarm systems installers, 49–2098
Security guards, 33–9032
Security guards and gaming surveillance officers, 33–9030
Segmental pavers, 47–4091
Self-enrichment education teachers, 25–3021
Semiconductor processors, 51–9141
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders, 51–9012
Septic tank servicers and sewer pipe cleaners, 47–4071
Service station attendants, 53–6031
Service unit operators, oil, gas, and mining, 47–5013
Set and exhibit designers, 27–1027
Sewers, hand, 51–6051
Sewing machine operators, 51–6031
Shampooers, 39–5093
Sheet metal workers, 47–2211
Ship and boat captains and operators, 53–5020
Ship engineers, 53–5031
Shipping, receiving, and traffic clerks, 43–5071
Shoe and leather workers, 51–6040
Shoe and leather workers and repairers, 51–6041
Shoe machine operators and tenders, 51–6042
Shuttle car operators, 53–7111
Signal and track switch repairers, 49–9097
Skin care specialists, 39–5094
Slaughterers and meat packers, 51–3023
Slot key persons, 39–1012
Small engine mechanics, 49–3050
Social and community service managers, 11–9151
Social and human service assistants, 21–1093
Social science research assistants, 19–4061
Social sciences teachers, postsecondary, 25–1060
Social scientists and related workers, 19–3000
Social work teachers, postsecondary, 25–1113
Social workers, 21–1020
Sociologists, 19–3041
Sociology teachers, postsecondary, 25–1067
Soil and plant scientists, 19–1013
Sound engineering technicians, 27–4014
Special education teachers, 25–2040
Special education teachers, middle school, 25–2042
Special education teachers, preschool, kindergarten, and elementary school, 25–2041
Special education teachers, secondary school, 25–2043
Special forces, 55–3018
Special forces officers, 55–1017
Speech-language pathologists, 29–1127

Sports and related workers, See, 27–2000
Stationary engineers and boiler operators, 51–8021
Statistical assistants, 43–9111
Statisticians, 15–2041
Stock clerks and order fillers, 43–5081
Stonemasons, 47–2022
Structural iron and steel workers, 47–2221
Structural metal fabricators and fitters, 51–2041
Substance abuse and behavioral disorder counselors, 21–1011
Subway and streetcar operators, 53–4041
Supervisors of installation, maintenance, and repair workers, 49–1000
Supervisors, building and grounds cleaning and maintenance workers, 37–1000
Supervisors, construction and extraction workers, 47–1000
Supervisors, farming, fishing, and forestry workers, 45–1000
Supervisors, food preparation and serving workers, 35–1000
Supervisors, office and administrative support workers, 43–1000
Supervisors, personal care and service workers, 39–1000
Supervisors, production workers, 51–1000
Supervisors, sales workers, 41–1000
Supervisors, transportation and material moving workers, 53–1000
Surgeons, 29–1067
Surgical technologists, 29–2055
Survey researchers, 19–3022
Surveying and mapping technicians, 17–3031
Surveyors, 17–1022
Surveyors, cartographers, and photogrammetrists, 17–1020
Switchboard operators, including answering service, 43–2011
Tailors, dressmakers, and custom sewers, 51–6052
Tailors, dressmakers, and sewers, 51–6050
Tank car, truck, and ship loaders, 53–7121
Tapers, 47–2082
Tax examiners, collectors, and revenue agents, 13–2081
Tax examiners, collectors, preparers, and revenue agents, 13–2080
Tax preparers, 13–2082
Taxi drivers and chauffeurs, 53–3041
Teacher assistants, 25–9041
Teachers, other, 25–3000
Teachers, postsecondary, 25–1000
Teachers, primary, secondary and special education, 25–2000
Team assemblers, 51–2092
Technical writers, 27–3042
Telecommunications equipment installers and repairers, except line installers, 49–2022
Telecommunications line installers and repairers, 49–9052
Telemarketers, 41–9041
Telephone operators, 43–2021
Television, video, and motion picture camera operators and editors, 27–4030
Tellers, 43–3071
Terrazzo workers and finishers, 47–2053
Textile bleaching and dyeing machine operators and tenders, 51–6061
Textile cutting machine setters, operators, and tenders, 51–6062
Textile knitting and weaving machine setters, operators, and tenders, 51–6063
Textile machine setters, operators, and tenders, 51–6060
Textile winding, twisting, and drawing out machine setters, operators, and tenders, 51–6064
Textile, apparel, and furnishings workers, 51–6000
Therapists, 29–1120
Therapists, all other, 29–1129
Therapists, massage, 31–9011
Tile and marble setters, 47–2044
Timing device assemblers, adjusters, and calibrators, 51–2093
Tire builders, 51–9197
Tire repairers and changers, 49–3093
Title examiners, abstractors, and searchers, 23–2093
Tool and die makers, 51–4111

Tool grinders, filers, and sharpeners, 51–4194
Top executives, 11–1000
Tour and travel guides, 39–6020
Tour guides and escorts, 39–6021
Traffic technicians, 53–6041
Training and development managers, 11–3042
Training and development specialists, 13–1073
Transit and railroad police, 33–3052
Translators, See, 27–3091
Transportation and material moving occupations, 53–0000
Transportation attendants, 39–6030
Transportation attendants, except flight attendants and baggage porters, 39–6032
Transportation inspectors, 53–6051
Transportation, storage, and distribution managers, 11–3071
Transportation, tourism, and lodging attendants, 39–6000
Travel agents, 41–3041
Travel guides, 39–6022
Tree trimmers and pruners, 37–3013
Truck drivers, heavy and tractor-trailer, 53–3032
Truck drivers, light or delivery services, 53–3033
Umpires, referees, and other sports officials, 27–2023
Upholsterers, 51–6093
Urban and regional planners, 19–3051
Ushers, lobby attendants, and ticket takers, 39–3031
Vehicle and mobile equipment mechanics, installers, and repairers, 49–3000
Veterinarians, 29–1131
Veterinary assistants and laboratory animal caretakers, 31–9096
Veterinary technologists and technicians, 29–2056
Vocational education teachers, middle school, 25–2023
Vocational education teachers, postsecondary, 25–1194
Vocational education teachers, secondary school, 25–2032
Waiters and waitresses, 35–3031
Watch repairers, 49–9064
Water and liquid waste treatment plant and system operators, 51–8031
Water transportation workers, 53–5000
Weighers, measurers, checkers, and samplers, recordkeeping, 43–5111
Welders, cutters, solderers, and brazers, 51–4121
Welding, soldering, and brazing machine setters, operators, and tenders, 51–4122
Welding, soldering, and brazing workers, 51–4120
Wellhead pumpers, 53–7073
Wholesale and retail buyers, except farm products, 13–1022
Woodworkers, 51–7000
Woodworking machine setters, operators, and tenders, 51–7040
Woodworking machine setters, operators, and tenders, except sawing, 51–7042
Word processors and typists, 43–9022
Writers and authors, 27–3043
Writers and editors, 27–3040
Zoologists and wildlife biologists, 19–1023

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